



ENSURING DOMINANCE



PROGRAM EXECUTIVE OFFICE SOLDIER
PORTFOLIO

FY17



SOLDIER
PERFORMANCE



PROGRAM EXECUTIVE OFFICE SOLDIER



Since its inception in 2002, Program Executive Office (PEO) Soldier has provided Soldiers with capabilities to ensure they remain decisive and dominant throughout the full spectrum of military actions. We ensure Soldiers have the best and most innovative equipment. Additionally, we are committed to ensuring they receive the best training PEO Soldier can provide.





The U.S. Army and its Soldiers have operated in many challenging environment throughout its 239-year history. Sept. 11, 2001, has been one of the Army's most challenging. We conducted operations in Iraq and Afghanistan, where we still have a presence, while simultaneously performing global humanitarian missions and contingency operations. While our forces have withdrawn from Iraq and will soon from Afghanistan, PEO Soldier still remains vigilant in ensuring Soldiers have the equipment they need wherever our nation's interests dictate. The Army is the world's most dominant fighting force, and we proudly work to maintain that standard. We are taking deliberate steps to integrate technologies for the Soldier as a System.





As our name implies, PEO Soldier remains solely dedicated to the Soldier. It always has been, and always will be.

This Portfolio details more than 450 products that are a manifestation of our dedication to Soldiers. Our four Project Management (PM) Offices commit each day to supplying nothing but the best to Soldiers. They are PM Soldier Protection and Individual Equipment (PM SPIE), PM Soldier Sensors and Lasers (PM SSL), PM Soldier Warrior (PM SWAR), and PM Soldier Weapons (PM SW).



The Army Vision focuses on being “globally engaged and regionally responsive” and “guarantees the agility, versatility and depth to Prevent, Shape and Win.” PEO Soldier will continue seeking innovative solutions to the Army’s equipment requirements to ensure a versatile, expeditionary, agile, lethal, sustainable, and interoperable force capable of meeting and overcoming any challenge. The PEO Soldier team is proud to serve the Soldier...our strength and our purpose!



Project Manager Soldier Protection and Individual Equipment (PM SPIE)

Product Manager Soldier Clothing and Individual Equipment

Product Manager Soldier Protective Equipment





PM SPIE develops and fields advanced Soldier protection products, comfortable uniforms that enhance mission effectiveness, and improved parachute systems. These products are designed to protect Soldiers and allow them to operate in any conditions.



“Well, you know Soldiers get cold. Now with this system here, they can work through it. And as they sweat, the ECWCS will actually wick away the sweat, which therefore reduces the coldness on the body. That makes a huge difference. So you can work longer and be more efficient.”

– **SSG Arthur D. Stewart**

PRODUCT MANAGER SOLDIER CLOTHING AND INDIVIDUAL EQUIPMENT (PM SCIE)



PM SCIE supports Soldiers in multiple operational environments and improves their survivability, health, safety, mobility and sustainability. It provides safe, durable, and operationally effective individual and unit equipment. PM SCIE provides technologically advanced tactical and environmental protective clothing, individual chemical protective gear, load-carrying systems, and personnel parachutes and other air-drop equipment.



The **Operation Enduring Freedom Flame Resistant Army Combat Uniform (OEF FR ACU)**, which uses the Operation Enduring Freedom Camouflage Pattern (OCP), will provide concealment for Soldiers operating in Afghanistan's multiple-terrain environment.



The **Mass Tactical Canopy (T-11) Personnel Parachute System** provides paratroopers with a reduced rate of descent, allowing safe conduct of airborne operations day or night in weather conditions, in the water and at high altitudes.

Army Service Uniform (ASU)



MISSION

Provides a basic set of components that allows Soldiers to transition from semi-formal dress to full formal dress with little variation required.

CONTRACTORS

Coats

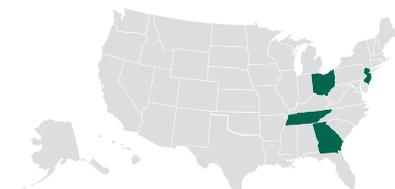
DeRossi & Son Co. (Vineland, NJ)
Bremen Bowdon (Bowdon, GA)

Trousers

Omega (Smithville, TN)
Tennessee Apparel Corp. (Tullahoma, TN)

Slacks/Skirts

Vocational Guidance Service (Cleveland, OH)
Omega (Smithville, TN)



Army Service Uniform (ASU)

The **Army Service Uniform (ASU)** was derived from the Army Dress Blue Uniform. The ASU consists of belted trousers and slacks with a traditional low waistline available for daily wear. The high waist men's trousers traditionally worn with suspenders are available for wear with the Army Mess Dress Uniform. The men's coat, women's coat, women's skirt, general officer trousers, and slacks are shade Army Blue 450. The enlisted and officer/non-commissioned officer men's trousers and women's slacks are shade Army Blue 451. The ASU features durable materials that are suitable for daily use without special care. The ASU coat, trousers, slacks and skirt fabric is a blend of 55 percent polyester and 45 percent wool.

A white herringbone shirt made of 65 percent polyester and 35 percent cotton will be for daily wear. Soldiers can wear commercial off-the-shelf white dress shirts for ceremonial and formal occasions.

Officers and NCOs (corporal and above) will wear gold braid on the trousers/slacks. Enlisted Soldiers (specialist and below) will have plain legs on the trousers/slacks and will wear new smaller service stripes on the left coat sleeve. One service stripe is worn for every three years of honorable service. Officers and enlisted Soldiers will wear overseas service bars on the right coat sleeve. One overseas service bar is authorized for every six months of overseas service in designated areas during specified periods. The current black accessories—such as the windbreaker, all-weather coat, overcoat and sweaters—may be worn with the ASU.



PROGRAM STATUS

✓ In Clothing Bag

PROJECTED ACTIVITIES

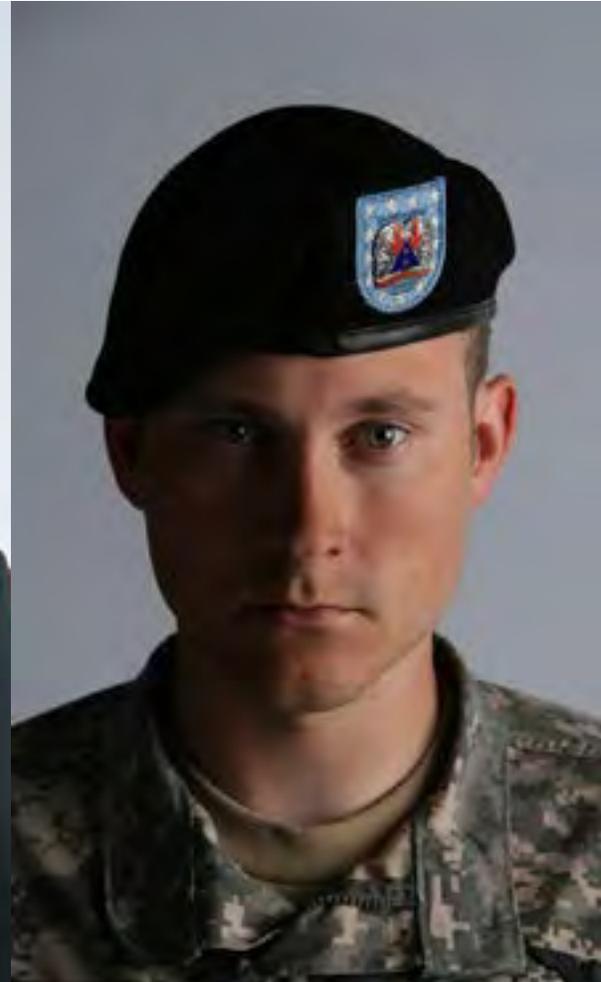
+ Available in the Military Clothing Sales Stores



Personal/Optional Clothing and Equipment



MEN'S & WOMEN'S GREEN CLASS A UNIFORM



MISSION

Provides a variety of standard issue and new clothing, insignia and personal equipment to enhance fit, comfort, alterability and appearance.

CONTRACTORS

Men's and Women's (unless otherwise marked)

Beret

Jensen Apparel (Portsmouth, VA) and Northwest Woolen Mills (Woonsocket, RI)

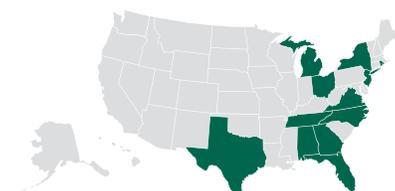
All Weather Coat

American Apparel (Selma, AL)

Class A/B Service Uniforms

AG 489 Coat: DeRossi and Son Co. (Vineland, NJ); Bremen Bowdon (Bowdon, GA); AG 489 Trousers: Tennessee Apparel Corp. (Tullahoma, TN); Omega (Smithville, TN) AG 489 Slacks: Vocational Guidance Service

(VGS) Inc. (Cleveland, OH); AG 489 Skirt: Omega (Smithville, TN); AG 415 Long Sleeve/Short Sleeve Shirt: Ashland Sales and Service (Macon, GA), UNICOR Kandor Mfg. (Arecibo, PR); AG 415 Long Sleeve/Short Sleeve, Tuck-in Shirt (women's): Middle Georgia (Dublin, GA); Black Tie: Alabama Industries for the Blind (Talladega, AL); Black Neck Tab: National Industries of the Blind Inc. (Greensboro, NC), Industries for the Blind (Albany, NY); Black Cotton Web Belt, Gold Tip and Sand-colored Rigger Belt: Travis Association for the Blind (Austin, TX); Buckles: Coastal Enterprises (Jacksonville, FL); Maternity and White Cardigan Sweaters: Military Equipment Corp. of America (Morristown, NJ); Poromeric Oxfords: Wolverine Worldwide (men's) (Rockford, MI), Capps Shoe Co. Inc. (Lynchburg, VA)



Personal/Optional Clothing and Equipment

The **Beret** is a one-piece, unlined wool shell with a leather headband, draw cord and lined badge-stay for attachment of insignia. The standard beret is black. Airborne Soldiers wear maroon berets, Special Forces wear green and Rangers wear tan berets. The beret is standard-issue headgear.

The **All-Weather Coat** functions as a raincoat and a topcoat. Double-breasted with a six-button front, it features set-in sleeves; pointed, button-down shoulder and sleeve straps; a front gun patch flap; two vertical welt pockets with pass-through slits; belt; center back pleat vent and half cape back; in black polyester/cotton blend.

The **Overcoat** is optional. It is warmer and dressier than the All-Weather Coat.

The **Men's Green Class A Service Uniform** includes a coat, trousers, shirt, necktie, belt and buckle.

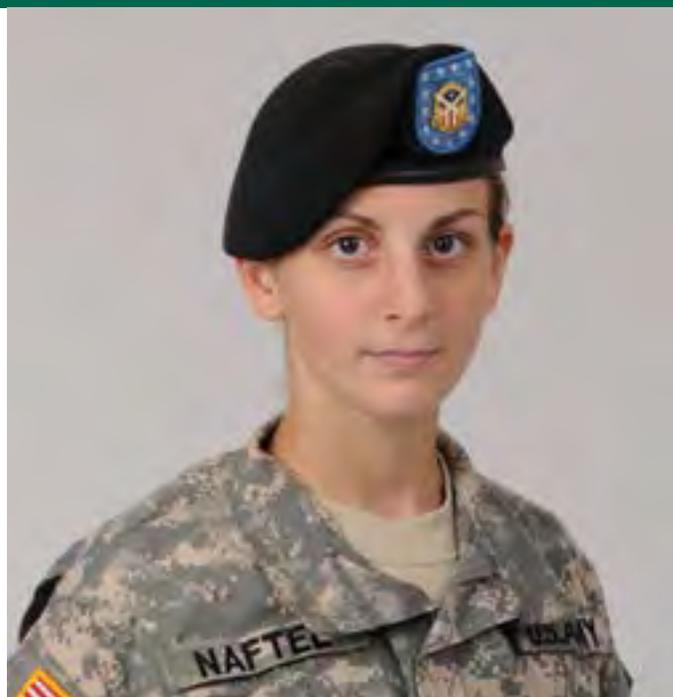
The **Women's Green Class A Uniform** includes slacks, a skirt, coat, shirt, neck tab, belt and buckle.

The **Men's Green Class B Service Uniform** omits the coat and tie if the short-sleeve shirt is worn.

The **Women's Green Class B Service Uniform** features improved fit, comfort, alterability and appearance. It omits the coat or coat and neck tab, depending upon the shirt worn.

The **Maternity Cardigan Sweater** is optional. Soldiers wear it with maternity service uniforms. The v-neck cardigan, longer in front than in back, has elbow and shoulder patches, epaulets with hook-and-loop attachments and a six-button front.

The **Poromeric Oxfords** are plain-toed shoes. They have removable cushioned insoles, skid-resistant soles and breathable comfort lining.



PROGRAM STATUS

- ✓ All items are in service use
- ✓ The ASU replaced the Army Green Class A/B Uniform in the Clothing Bag
- ✓ Wear out date for the Army Green Class A/B Uniform is FY16

PROJECTED ACTIVITIES

- + None



POROMERIC OXFORDS



PATROL CAP



WHITE CARDIGAN SWEATER



MATERNITY CARDIGAN SWEATER



ALL-WEATHER COAT



Army Combat Uniform (ACU)



MISSION

Enhances mission performance with a functional uniform tailorable for situational demands.

CONTRACTORS

ACU Coats/Trousers

API (Orocovis, PR; Camuy, PR); American Apparel (Selma, AL; Centre, AL); Bluewater Defense, Inc. (Corozal, PR); Golden Manufacturing (Marietta, MS); Puerto Rico Apparel Manufacturing (PRAMA) Corp (Mayaguez, PR); Short Bark Industries, Inc. (Guanica, PR); Tullahoma Industries (Tullahoma, TN); UNICOR
Pentaq (Sabana Grande, PR); Goodwill Industries (Miami, FL); SNC Manufacturing (Bo Gato, PR; Orocovis, PR; Camuy, PR)

ACU Patrol Caps

Southeastern Kentucky Rehabilitation Industries (Corbin, KY); Bernard Cap Co. (Hialeah, FL); Propper International (Mayaguez, PR)

ACU Sun Hats

Bernard Cap Co. (Hialeah, FL); M&B Headwear (Richmond, VA)

ACU T-shirts

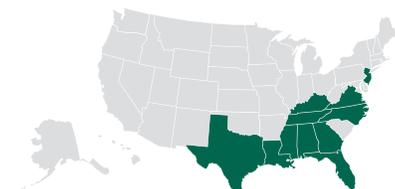
Federal Prison Industries (Washington, DC); Industries for the Blind (Alexandria, VA); Kandor Manufacturing (Arecibo, PR)

FR ACU Coat/Trousers

SNC Manufacturing (Camuy, PR); American Apparel (Selma, AL); Propper International (Cabo Rojo, PR); Tencate (Union City, GA); DJ Manufacturing (Caguas, PR)

ACU-A Coats/Trousers

UNICOR



Army Combat Uniform (ACU)

The **Army Combat Uniform (ACU)** consists of a non flame resistant jacket and trouser made of 50% nylon and 50% cotton. Deploying Soldiers receive a **Flame Resistant (FR ACU)** variant. To combat insect and tick-borne diseases, ACUs are factory treated with permethrin insecticide. The ACU is normally worn with a black beret or a patrol cap in the appropriate camouflage pattern, a moisture-wicking T-shirt, belt and Army combat boots.

The ACU enhances Soldier performance by providing a functional and ergonomic uniform that can be tailored to the mission. Based on Soldier satisfaction surveys, the ACU now includes buttons for the cargo pockets, a reinforced crotch and improved attachment of the infrared tab.

Soldiers wear the ACU with ancillary items. The ACU is machine-washable and contains a wrinkle-free treatment. This decreases out-of-pocket expense to Soldiers for cleaning and starching.

The Army Combat Uniform-Alternate (ACU-A) enhances Soldier performance by providing a functional and ergonomic uniform that can be tailored to the mission. The ACU-A was designed to provide enhanced fit and sizing for female and smaller statured Soldiers.



ACU-A



PROGRAM STATUS

- ✓ Issued to Soldiers at Initial Entry Points and available for purchase at Military Clothing and Sales stores

PROJECTED ACTIVITIES

- + Planned improvements to the design features of the ACU, ACU-A, and FR ACU to enhance the uniform functionality



Flame Resistant Fuel Handlers Coverall (FR FHC)



MISSION

Provides fuel handlers protection from flash fires, direct skin exposure, and saturation of their duty uniform of fuel during fueling operations, as well as protection during water, and ammunition operations.



CONTRACTORS

Tennessee Apparel Corp. (Tullahoma, TN)

Propper International (Mayaguez, PR);

Flame Resistant Fuel Handlers Coverall (FR FHC)

The **Flame Resistant Fuel Handlers Coverall (FR FHC)** is a one-piece flame resistant (FR) garment that provides JP-8 and electrostatic protection to the fuel handler in all operational and environmental conditions. The coverall is constructed from a tri-layer GORE-TEX® fabric incorporating a breathable GORE-TEX® membrane. The FR FHC can be worn over the Army Combat Uniform, the Army Aircrew Combat Uniform (A2CU) and the Flame Resistant Army Combat Uniform.

The FR FHC replaces the non-FR Fuel Handlers Coverall, a one-piece sand colored garment that provided JP-8 and electrostatic protection and was constructed from tri-layer laminate consisting of a nylon filament outer fabric, a breathable GORE-TEX® membrane, and an anti-static nylon knit backer.

PROGRAM STATUS

- ✓ Continue to field via RFI
- ✓ Adopted by the USMC

PROJECTED ACTIVITIES

- + All Items In sustainment available by requisition from the Defense Logistics Agency Troop Support (DLA-TS)



Army Aircrew Combat Uniform (A2CU)



MISSION

Enhances aircrew comfort, and provides flash flame protection during pre-flight, flight, post-flight, refueling and other aviation operations.



CONTRACTORS

SNC Manufacturing (Caguas, PR)
Creative Apparel (Belfast, ME)

Army Aircrew Combat Uniform (A2CU)

The Army **Aircrew Combat Uniform (A2CU)** is a two-piece flight uniform designed for flight operations. The coat and trouser is similar in design to the Army Combat Uniform (ACU). The coat has a stand-up collar featuring a front extension, shoulder patches, a front zipper, and two inside hanging chest pockets with flaps. It also has an adjustable waist, two-piece set-in sleeves with elbow patches, two sleeve utility pockets with flaps and Identification of Friend or Foe Identification (IFF) tabs, as well as two lower sleeve pencil pockets with flaps. The A2CU coat is compatible with the Air Warrior Microclimate Cooling Vest. The trousers have nine pockets—two thigh pockets, two calf pockets with external tool pockets, one knife pocket with lanyard (on the left thigh) and two side hanging pockets. Pockets (except for the side hanging pockets and the lower leg external tool pockets) have flaps and zippers.

The A2CU is an upgrade to the Improved Aviation Battle Dress Uniform (iABDU) protective clothing system. It provides operational effectiveness, fit, suitability and durability, addressing Air Warrior requirements.

PROGRAM STATUS

- ✓ A2CU is available at Central Issuing Facilities (CIFs).

PROJECTED ACTIVITIES

- + A female variant is being developed and will be available in CIFs. The A2CU-Female uniform provides fit improvements for the female Soldier. Future efforts will orient on increasing A2CU durability.



Improved Combat Vehicle Crewman (iCVC) Coverall



MISSION

Provides combat vehicle crewmen with extraction capability and improved protection from flame and flash fires in all weather conditions.



CONTRACTORS

Source for Native American Products (SNAP) (Eastport, ME)
Creative Apparel (Belfast, ME)

Improved Combat Vehicle Crewman (iCVC) Coverall

The **Improved Combat Vehicle Crewman (iCVC) Coverall** is a one-piece flame-resistant garment with a front entry, zippered closure with dual sliders. It has a drop seat, upper back extraction strap, collar with front throat protection, zippers on the sleeves and legs, and nine pockets. The coverall is a blend of inherently flame-resistant fibers. It is available in the Universal Camouflage Pattern (UCP) and Operation Enduring Freedom (OEF) Camouflage Pattern (OCP).



PROGRAM STATUS

✓ In sustainment

PROJECTED ACTIVITIES

+ None



Army Combat Shirt (ACS)



MISSION

Provides Soldiers a flame resistant, lightweight, highly breathable, moisture wicking shirt that reduces heat stress and comfort when worn with body armor.



CONTRACTORS

API Manufacturing (Camuy, PR)

National Industries for the Blind (NIB) – multiple locations

Source America – multiple locations

Army Combat Shirt (ACS)

Soldiers wear the **flame-resistant (FR) Army Combat Shirt (ACS)** under their body armor instead of the FR Army Combat Uniform or the Army Aircrew Combat Uniform jacket and standard-issue T-shirt. This reduces bulk for Soldiers operating in extreme climates.

The shirt torso features a highly breathable, moisture-wicking blend of cotton, rayon, polyester and spandex. The ACS increases moisture vapor transmission, heat stress relief and comfort when worn with the Improved Outer Tactical Vest (IOTV) or Soldier Plate Carrier System (SPCS). The FR sleeves are constructed of camouflage printed material. The ACS features integrated anti-abrasion elbow pads, shoulder pockets, infrared identification tags, flat-seam shoulders and side panels for comfort, and hook-and-loop fasteners for the name, rank, unit patch and American flag. The ACS is machine washable and maintains its flame resistance for the life of the garment. The Type II ACS is constructed to provide FR protection over a greater area of coverage when worn with the SPCS

PROGRAM STATUS

- ✓ The ACS is being fielded to deployers through the Rapid Fielding Initiative (RFI)
- ✓ The ACS is an Army Program Of Record (actual procurement and fielding for training is TDB).

PROJECTED ACTIVITIES

- + Continue fielding to Deployers.



Army Combat Pant (ACP)



MISSION

Provides the Soldier with a ruggedized combat pant that dramatically reduces seat, knee, and crotch area failures, increases durability and range of motion, and provides Soldiers flash flame and thermal protection.



CONTRACTORS

Ready One Industries (El Paso, TX)
Goodwill Industries (Miami, FL)

Army Combat Pant (ACP)

The **Army Combat Pant (ACP)** is a flame resistant pant designed for use in rugged combat environments. These pants feature a ruggedized, anti-abrasion coated seat panel, stronger twill fabric in the body of the pants, and stretch fabric at key stress points. The ACP has integrated, removable hard-shell knee pads with both horizontal and vertical points of adjustment built into the pants. The body of the ACP is made of fabric which is a blend of flame resistant rayon, para-aramid and nylon.

PROGRAM STATUS

- ✓ The ACP is being fielded to deployers through the Rapid Fielding Initiative (RFI). The ACP is being reviewed as a Program of Record for future deployers.

PROJECTED ACTIVITIES

- + Continued fielding to deployers and finalize as a Program of Record..



Infrared Retroreflective (IR) Flag



MISSION

Helps Soldiers identify friendly forces when using Infrared sensors during hours of limited visibility.



CONTRACTORS

To be determined

Infrared Retroreflective (IR) Flag

The **Infrared Retroreflective (IR) Flag** is an attachable patch that enables the identification of friendly forces. The flag becomes visible in dark environments when observed with near-infrared vision systems, such as Night Vision Goggles (NVGs) and near-infrared illuminators. The IR Flag is made of micro-prismatic, retroreflective black polymeric film contrasted with opaque desert sand stars and stripes. The IR Flag, which is 3.5 inches long by 2 inches wide, attaches to military uniforms with hook fastener tape.



PROGRAM STATUS

- ✓ Fielding to deploying Soldiers.

PROJECTED ACTIVITIES

- + Continue to field to deploying Soldiers



Flame Resistant Environmental Ensemble (FREE)



MISSION

Provides Soldiers a flame resistant multi-layered, versatile, insulating system that is adaptable to varying operational and environmental conditions.



CONTRACTORS

Atlantic Dive Supply (ADS) (Virginia Beach, VA)

Flame Resistant Environmental Ensemble (FREE)

The **Flame Resistant Environmental Ensemble (FREE)** offers comfort and functionality in and out of aircraft, and armored vehicles. It is a comprehensive clothing system from next of skin layers to outerwear. FREE is compatible with current issue personal protective equipment. All layers of the FREE system incorporate flame-resistant technologies.

FREE will replace existing aviation and combat vehicle crewmen cold weather clothing. It is color-compatible (in **Universal Camouflage Pattern [UCPI]** and **Operation Enduring Freedom Camouflage Pattern [OCPI]**) with ground Soldier uniforms. The system's adaptability gives Soldiers more personal

protection choices, a crucial factor in responding to current threats while facing extreme climate conditions.

PROGRAM STATUS

- ✓ FREE procurements will be done through DLA Troop Support
- ✓ Components will be procured individually, not in kit form
- ✓ Fielding through RFI
- ✓ Fielding to Europe and Alaska

PROJECTED ACTIVITIES

- + Product improvement to streamline, and improve environmental performance of FREE without affecting flame/thermal protection
- + Better design, and reduced cost overall



DUTY UNIFORM: (R) ARMY AIRCREW COMBAT UNIFORM; (L) IMPROVED COMBAT VEHICLE CREWMAN (ICVC) COVERALL



EXTREME WEATHER OUTER LAYER (EWOL) JACKET



INTERMEDIATE WEATHER OUTER LAYER (IWOL) JACKET



INTERMEDIATE WEATHER OUTER LAYER (IWOL) PANTS



FLEECE



BASE LAYER



MID-WEIGHT LAYER



NEXT TO SKIN UNDER LAYER



FR SOCKS



FR RIGGERS BELT



Generation III Extended Cold Weather Clothing System (GEN III ECWCS)



MISSION

Provides Soldiers a multi-layered, versatile insulating system adaptable to varying operational and environmental conditions.



CONTRACTORS

Atlantic Dive Supply (ADS) (Virginia Beach, VA)

Generation III Extended Cold Weather Clothing System (GEN III ECWCS)

The **Generation III Extended Cold Weather Clothing System (GEN III ECWCS)** allows the Soldier to adapt to varying mission requirements and environmental conditions. Utilized materials offer a greater range of breathability and environmental protection, providing greater versatility in meeting Soldiers' needs.

GEN III ECWCS utilizes an innovative design that reduces bulk; it takes up 33 percent less space and weighs 25 percent less than its predecessor systems. Each piece of GEN III ECWCS functions either alone or in concert with other components as a system. This provides more options for the Soldier and enables seamless integration with load-bearing equipment and body armor configurations. The GEN III ECWCS design allows moisture to escape and at the same time has water-resistant properties.

GEN III ECWCS is a 12-piece kit that enables Soldiers to utilize seven different layers, depending on the mission and environment. The system functions through insulation, layering and ventilation. Insulation resists the transmission of heat, traps air and wicks moisture away from the body. Layering increases air space and allows easy adjustment to a Soldier's activity level. Ventilation allows moisture to escape. By mixing and matching GEN III ECWCS components, Soldiers can protect themselves from temperatures ranging from 40 degrees Fahrenheit to minus 60 degrees Fahrenheit

PROGRAM STATUS

- ✓ Fielding via RFI

PROJECTED ACTIVITIES

- + Technology review/product improvements to address greater FR protection for the dismounted Soldier.

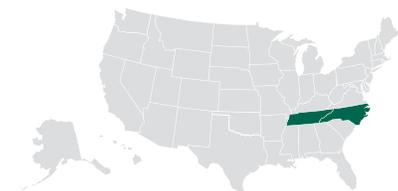


Army Combat Boot (Temperate Weather)



MISSION

Provides Soldiers with environmental foot protection in a variety of environments.



CONTRACTORS

McRae Industries Inc. (Mt. Gilead, NC)
Wellco Enterprise, Inc., (Morristown, TN)

Army Combat Boot (Temperate Weather)

The **Army Combat Boot (Temperate Weather)** is a desert sand-colored, temperate weather combat boot with a moisture-resistant, rough-side-out cattle-hide leather and nylon duck upper. It contains a waterproof breathable membrane and integrated safety features such as limited flame, conductive heat and liquid fuel penetration protection. The sole consists of a direct attached, shock-absorbing soling system with an abrasion- and slip-resistant solid rubber outsole. It has a combination eyelet and speed-lace lacing system.



PROGRAM STATUS

- ✓ One pair issued as part of initial issue Clothing Bag effective October 2004. The Army Combat Boot (Temperate Weather) is a required possession item (one pair) for all Soldiers under AR 670-1. Available for purchase in the Military Clothing and Sales Stores.

PROJECTED ACTIVITIES

- + As a result of the Army camouflage uniform changes, the ACB (TW) will be transition to Coyote Brown on future contracts.



Cold (Wet and Dry) Weather and Specialty Boots



MISSION

Provides the Soldier with environmental foot protection suitable for wet and dry cold weather conditions.

CONTRACTORS

ECWB

TBD

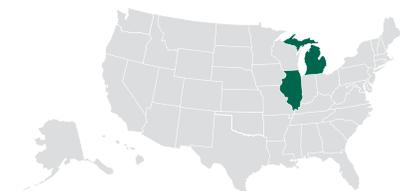
ICWB w/RL

Belleville Shoe Manufacturing Co. (Belleville, IL)

TW MCB and HW MCB

Belleville Shoe Manufacturing Co. (Belleville, IL)

Wolverine Worldwide (Big Rapids, MI)



Cold (Wet and Dry) Weather and Specialty Boots

The **Extreme Cold Weather Boot (ECWB)** provides protection against the environmental hazards down to -60°F. Boots are white and have six pairs of eyelets and insulation consisting of three layers of needle-punched polyester foam hermetically sealed within an outer and inner layer of rubber. The boot has a pressure-release valve to adjust internal air pressure in the boot during high-altitude operations.

The **Intermediate Cold Wet Boot with Removable Liner (ICWB w/RL)** is a tan, cold-wet weather combat boot with a moisture-resistant, rough-side-out cattlehide leather upper measuring 10 inches in height. Soldiers wear boots in cold, wet environments where the average monthly temperature ranges between 14 and 32 degrees Fahrenheit. This boot contains a waterproof breathable membrane and comes with two pairs of insulated removable booties. It has a shock-attenuating soling system with a slip- and abrasion-resistant rubber outsole. It has a combination eyelet and speed-lace lacing system.

The **Mountain Combat Boot (MCB)** is a durable, hiking-style mountain combat boot designed to provide a combat-effective boot with the ankle stability, support, and mobility required in a rugged mountainous environment. The MCB has both a temperate and hot weather version. The HW MCB provides increased breathability.

PROGRAM STATUS

- ✓ ECWB and ICWB w/RL in sustainment and are issued through the Central Issuing Facilities
- ✓ MCB is being fielded to Deployers through the Rapid Fielding Initiatives.

PROJECTED ACTIVITIES

- + Initial fielding of the updated boot



TEMPERATE WEATHER MOUNTAIN
COMBAT BOOT (TW MCB)



EXTREME COLD WEATHER
BOOT (ECWB)



INTERMEDIATE COLD WET BOOT WITH
REMOVABLE LINER (ICWB W/RL)



HOT WEATHER MOUNTAIN COMBAT
BOOT (HW MCB)



MODULAR BOOT SYSTEM (MBS)



Hot (Wet and Dry) Weather Boots



MISSION

Provides the Soldier with environmental protection in wet and dry hot weather environments.

CONTRACTORS

ACB (HW)

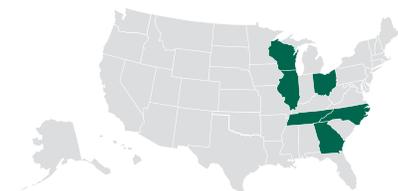
McRae Industries Inc. (Mt. Gilead, NC)
Wellco Enterprises Inc. (Morristown, TN)
Rocky Boot (Nelsonville, OH)

ACB (HW-FR)

Belleville Shoe Manufacturing Co. (Belleville, IL)

ACB (HW-ST)

Weinbrenner Shoe Company Inc. (Merrill, WI)



Hot (Wet and Dry) Weather Boots

The **Army Combat Boot (Hot Weather) [ACB (HW)]** is a tan-colored, hot weather combat boot made with moisture-resistant, rough-side-out cattlehide leather and nylon duck upper with two drainage eyelets on the inner arch. The soling system of this boot consists of a three-layer, shock-absorbing soling system with an abrasion-resistant outsole. It has a combination eyelet and speed-lace lacing system. It also has a non-marking, shock attenuating soling system for durability and injury reduction.

The **Army Combat Boot (Hot Weather-Flame Resistant) [ACB (HW-FR)]** is a tan-colored, flame- and conductive heat-resistant hot weather combat boot made with moisture-resistant, rough-side-out cattlehide leather and fabric upper designed for U.S. Army flight personnel and combat vehicle crewmen. The soling system of this boot consists of a three-layer, shock-absorbing soling system with a solid rubber, abrasion-resistant outsole for durability and injury reduction. It has a combination eyelet and speed-lace lacing system.

The **Army Combat Boot (Hot Weather-Safety Toe) [ACB (HW-ST)]** is the safety toe version of the ACB (HW). It is a tan-colored, hot weather combat boot made with moisture-resistant, rough-side-out cattlehide leather and nylon duck upper. The sole of this boot consists of a three-layer, shock absorbing soling system with an abrasion-resistant solid rubber outsole. It has a combination eyelet and speed-lace lacing system and contains an ASTM F13-compliant steel toe.



PROGRAM STATUS

- ✓ Army Combat Boot (Hot Weather) is currently a Clothing Initial Issue Bag Item.
- ✓ The ACB (HW-FR) is a RFI item (Flight and Combat Vehicle Crewman only)

PROJECTED ACTIVITIES

- + HWFR DLA contract award to support sustainment (FY15)



ARMY COMBAT BOOT (HOT WEATHER-FLAME RESISTANT)
[ACB (HW-FR)]



ARMY COMBAT BOOT (HOT WEATHER)
[ACB (HW)]



Intermediate Cold Wet Glove (ICWG)



MISSION

Protects Soldiers' hands in intermediate cold and wet environmental conditions.



CONTRACTORS

To be determined

Intermediate Cold Wet Glove (ICWG)

The waterproof **Intermediate Cold Wet Glove (ICWG)** protects hands in temperatures from approximately 0 to 40 degrees Fahrenheit. The recently improved ICWG now features less bulky insulation in the trigger finger to increase dexterity. The new glove has eliminated the flexor design and has a waterproof/breathable membrane. Soldiers can wear the ICWG alone or over lightweight inserts.

PROGRAM STATUS

- ✓ Researching product improvement materials

PROJECTED ACTIVITIES

- + 4 Glove System (FR Liner, FR Combat Glove, FR CW Combat Glove, and ECW Mitten)



Gloves, Cold Weather



MISSION

Provides the Soldier with cold weather hand protection in both wet and dry conditions.

CONTRACTORS

ICW Flyer's Glove

Ansell Hawkeye Inc. (Fort Dodge, IA)
Nationwide Glove Co. Inc. (Harrisburg, IL)

ECW Mitten Set

Propper International (Mayaguez, PR)

Snow Camouflage White Mitten Shells

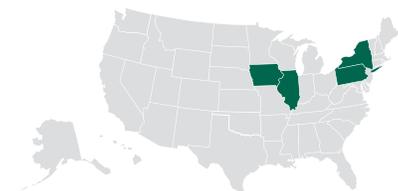
Propper International (Mayaguez, PR)

CW Trigger Finger Mitten Shells

Ansell Hawkeye Inc. (Fort Dodge, IA)
Propper International (Mayaguez, PR)
Hercules Glove Manufacturing (Rochester, NY)

CW Trigger Finger Mitten Inserts

Indogem Inc. (Allentown, PA)



Gloves, Cold Weather

Intermediate Cold Weather (ICW) Flyer's Gloves protect against cold weather. Nomex flame-resistant knit fabric protects the back of the hand, and black sheepskin leather protects the inside of the hand from palm to fingertips.

Extreme Cold Weather Fuel Handlers Gloves (ECW FHG) is a waterproof glove with Fire Resistant (FR) liners or lining, to provide warmth in Extreme Cold Weather (ECW) for short periods of time. Must also be quick drying and cannot become heavy when soaked with fuel.

Extreme Cold Weather (ECW) Mitten Set is worn over other handwear to provide extra protection in extremely cold climates. In situations requiring dexterity where the mittens must be temporarily removed, the Soldier can easily secure the mittens with the included suspension harness. The ECW Mitten Set includes the outer shells, removable insulation, and a cotton tape and cotton braid suspension harness. The outer shells of the mitten set consist of wind-resistant and water-repellent cotton/nylon blend. They have deerskin leather palms and have wool pile material on the backs of the hands. The removable insulating liner is made of polyester batting and has a lightweight ripstop nylon cover fabric. The mittens

have a long gauntlet with adjustable closure straps across the tops of the wrist gauntlet.

Soldiers wear **Cold Weather Trigger Finger (TF) Mitten Shells** in temperatures too cold for five finger gloves. They provide added dexterity over the ECW mitten by having trigger fingers. The shell is a wind-resistant and water-repellent cotton/nylon blend with leather palms, thumb compartments, trigger finger and combined second, third, and fourth finger compartments. The mitten shells have long gauntlets with elastic around the top, a tape loop at the top for attaching a suspension cord, and an adjustable closure strap on the back across the wrist. The mitten shells have insulation across the backs of the hand and around the fingers. The TF Mitten Shells can be worn with or without the Cold Weather Trigger Finger Mitten Inserts.

PROGRAM STATUS

- ✓ In sustainment

PROJECTED ACTIVITIES

- + Researching product improvement materials and fit



**COLD WEATHER TRIGGER
FINGER (TF)
MITTEN INSERTS**



**SNOW CAMOUFLAGE WHITE MITTEN
SHELLS**



**EXTREME COLD WEATHER (ECW)
MITTEN SET**



**SUMMER FLYER'S
GLOVES**



**WINTER FLYER'S
GLOVES**



Gloves, Army Combat



MISSION

The Army Combat Glove protects the Soldier's hands while moving/carrying equipment, navigating through rough terrain and during the conduct of combat operations.

CONTRACTORS

Combat Glove

HWI Gear Inc. (Ojai, CA)
Promotions Plus, Inc. (North Royalton, OH)

CVC Gloves, Flyer's Gloves

Ansell Hawkeye Inc. (Fort Dodge, IA)
Hercules Glove Manufacturing (Rochester, NY)
Nationwide Glove Co. Inc. (Harrisburg, IL)



Gloves, Temperate and Hot Weather

The **Combat Glove** is manufactured from flame-resistant para and meta-aramid materials which contain conductive anti-static fiber. The glove is form fitting, offering maximum dexterity, tactility, flexibility, flame resistance and cut protection. The leather palm is goat/kidskin. Thread materials are 100 percent flame-resistant para-aramid. The gloves can be laundered without losing their protective properties.

PEO Soldier is testing the **Army Combat Glove-Capacitive (ACG-C)**, which is a Flame Resistant Combat Glove with capacitive touch that can be worn for all combat related activities. The ACG-C offers capacitive touch, maximum dexterity, tactility, and durability, while allowing Soldiers to perform a multitude of job related functions (e.g., weapons qualification, breaching obstacles, fire support, and operations with end user devices). It offers fire resistance and cut protection.

The **Combat Vehicle Crewman's (CVC) Glove** and the **Summer Flyer's Glove** are lightweight, unlined cloth and leather gloves. The CVC Glove contains flame-resistant Simplex knit Nomex and has leather palms made of water-resistant cattlehide or horsehide. The Summer Flyer's Glove has flame-resistant Simplex knit Nomex with palms made of water-resistant hairsheep leather. Both gloves can be laundered without losing their flame resistance properties.



PROGRAM STATUS

- ✓ Currently fielding the ACG

PROJECTED ACTIVITIES

- + 4 Glove System Fully fashioned glove (seamless but maintaining density to protect from Flame) (from JAPBI)
- + Trigger Finger Mitten Insert - new technologies (fabrics and manufacturing) (from JAPBI)
- + Expand glove capabilities by testing designs with different fabrics and leathers (from JAPBI)



COMBAT GLOVE

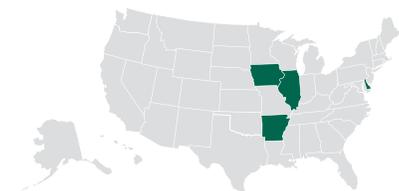


Gloves, Utility



MISSION

Protects the Soldier's hands in a variety of potentially dangerous situations and settings.



CONTRACTORS

Barbed Wire Handlers' Gloves

Ansell Hawkeye Inc. (Fort Dodge, IA)

Men's and Women's Heavy Duty Gloves

Nationwide Glove Co. Inc. (Harrisburg, IL)

Ansell Hawkeye Inc. (Fort Dodge, IA)

Light Duty Work Gloves/Utility Gloves

Nationwide Glove Co. Inc. (Harrisburg, IL)

Fuel Handlers' Gloves (FHG)

Masley Enterprises Inc. (Wilmington, DE)

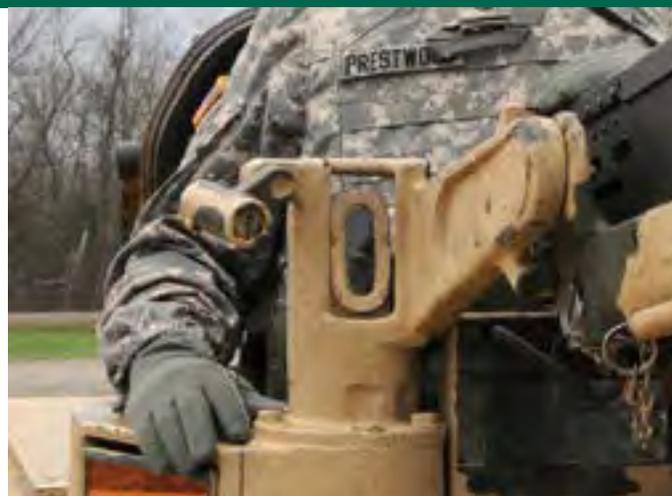
Ansell Hawkeye Inc. (Fort Dodge, IA)

Barbed Wire Handlers' Gloves protect the Soldier's hands when they must handle barbed tape, barbed wire, razor wire and other similar materials. The gloves have a four-finger-and-thumb Clute design with a 5-inch gauntlet. The gloves consist of split-leather cowhide. Cotton flannel lines the leather palms and cotton duck lines the gauntlet areas. Leather strips stapled one-quarter of an inch apart reinforce the palms and the insides of the fingers and thumbs.

Men's and Women's Heavy Duty Gloves are Gunn-cut cowhide or horsehide gloves. The gloves have continuous thumbs with leather welts inserted in the thumb seams. The seams at the base of the fingers also include a reinforcing leather welt, which is upturned to cover the stitching. An additional layer of leather reinforces the palms. The gloves have an adjustable strap and buckle on the back.

Light Duty Utility Gloves (LDUG) are multifunctional but best suited for light work. The March 2008 redesign improved Soldier dexterity, tactility and comfort by reducing the number of seams in the fingers. The newer three-dimensional shape gives the gloves less bulk.

Fuel Handlers' Gloves (FHG) protect against kerosene-based fuels. The gloves consist of Nomex Simplex knit with leather palms, and are liquid-proof and flame-resistant. They provide fuel handlers with maximized protection, performance and comfort. The gloves have full Gore-Tex® direct grip glove inserts for protection against the fuels. The glove insert also makes this glove waterproof.



PROGRAM STATUS

- ✓ Items in sustainment; no further development planned

PROJECTED ACTIVITIES

- + To be determined



LIGHT DUTY UTILITY GLOVES
(LDUG)



MEN'S AND WOMEN'S HEAVY
DUTY GLOVES



FUEL HANDLER'S GLOVES
(FHG)



BARBED WIRE HANDLERS'
GLOVES



Utility Uniforms and Accessories



MISSION

Improves Soldier comfort with climate-appropriate utility uniforms and accessories that function as combat clothing or duty uniforms.

CONTRACTORS

Boot Sock

Special T Hosiery Mills (Burlington, NC)
Pickett Hosiery Mills (Burlington, NC)

Fleece Cap

Seneca-Cayuga Counties Chapter,
NYSARC Inc. (Waterloo, NY)

Hat, Sun Hot Weather (Boonie Hat)

Bernard Cap Co. (Hialeah, FL); M&B
Headwear (Richmond, VA)

Rigger Belt

Travis Association for the Blind (Austin, TX)
Brown Bath Towel
UNICOR (Terre Haute, IN)

KEP

Bijan Protective Equipment (Santa Rosa, CA)



Utility Uniforms and Accessories

The **Improved Boot Sock** is over-the-calf style, with a double-welt top and a double-covered elastic yarn that is continuous from the welt top to the ankle area. The fully reciprocal heel, toe and foot area is padded with a half-cushion terry for blister protection. The entire ankle, heel, toe and foot is knit 360 degrees with a main body yarn (terry yarn) and a silver-coated nylon yarn knit in the same position. The nylon yarn is permanently coated with 99.9 percent pure silver, is non-allergenic and antimicrobial, and provides protection against bacteria and fungi.

The **Fleece Cap** is foliage green, synthetic microfleece and is 100 percent polyester. Its bell shape and pull-on style provide increased comfort and durability.

The **Hat, Sun Hot Weather (Boonie Hat)** has a soft crown, a standard-width quilted stitched brim, a chinstrap and a camouflage band. The cloth is ripstop poplin, 50/50 percent cotton/nylon, with a water-repellent finish. The hat comes in the **Universal Camouflage Pattern (UCP)** and **Operation Enduring Freedom Camouflage Pattern (OCP)**.

The **Rigger Belt** is a desert sand belt made of nylon rigger webbing and a parachute buckle. The belt offers increased comfort, durability and functionality.

The **Sock Liner, Dress Sock** is a dual-purpose item worn by the male and female Soldier under all types of boot socks to prevent blisters. Soldiers can wear it as a dress sock with black dress shoes. The sock consists of polyester/nylon/spandex.

The **Brown Bath Towel** is for use in garrison and field environments. The terry cloth fabric is 70 percent polyester and 30 percent cotton. The towel is 20 inches by 40 inches.

Knee and Elbow Pads (KEP) provide dismounted Soldiers with protection for knees and elbows. They protect while engaged in tasks that subject these areas to possible injury or discomfort caused by impact, pressure, or protruding objects and debris (e.g., rocks, gravel, or glass).

PROGRAM STATUS

- ✓ All items in sustainment

PROJECTED ACTIVITIES

- + None



FLEECE CAP



HAT, SUN HOT WEATHER (BOONIE HAT)



KNEE AND ELBOW PADS



IMPROVED BOOT SOCK



BROWN BATH TOWEL



RIGGER BELT



Modular Lightweight Load-Carrying Equipment (MOLLE)



MISSION

Enables the Soldier to tailor individual loads to meet mission needs with modular and flexible load-carrying equipment.



CONTRACTORS

BAE Systems (Jessup, PA)

Eagle Industries/ATK (Fenton, MO)

Modular Lightweight Load-carrying Equipment (MOLLE)

The Modular Lightweight Load-carrying Equipment (MOLLE) system consists of two rucksacks and five mission specialized sets. It allows Soldiers to tailor the systems' components to accommodate the various sizes and placement of the loads they carry and fight with. The specialized sets supporting mission specific needs are the **Rifleman Set** (with Waist Pack, Assault Pack, Hydration System, and compatible pouches for ammo magazines and grenades), **Pistolman Set**, **Grenadier Set**, **Squad Automatic Weapon (SAW) Gunner Set**, and **Medic Set**.

In 2010, the **Tactical Assault Panel (TAP)** was designed and fielded as an improvement over the **Fighting Load Carrier (FLC)** that was a component of the Rifleman Set. The TAP enables Soldiers to carry all of the MOLLE basic fighting load pouches as did the FLC, yet still allows the **Improved Outer Tactical Vest (IOTV)** to release in emergency situations. The TAP is quickly and easily connected and removed from the IOTV so that the heavy fighting load can be removed when not needed on the body armor. The TAP also includes a harness that allows it to be worn and used without body armor.

The Large Rucksack, with sustainment pouches, can hold 5,000 cubic inches of sustainment gear and supplies. In 2009, the 3,000 cubic inch Medium Rucksack was developed and fielded to better accommodate the equipment and supplies a Soldier carries for a typical 24-to-72 hour dismounted mission.

A redesign of the MOLLE Medic Set called the **Improved MOLLE Medic Set (IMMS)**, validated through user evaluations, will be implemented in FY14. It will accommodate the changes in **Tactical Combat Casualty Care (TCCC)** doctrine and enable combat medics to carry additional life saving medical supplies. The IMMS has three modular sections—the Tactical Evaluation Bag, Tactical Field Care Bag, and the Care Under Fire Bag—that are specifically tailored to TCCC. The IMMS decreases the Combat Medic's overall combat load and provides a load bearing solution that is modular, scalable, and can be tailored to accommodate any mission profile. The IMMS is interoperable with other medical assemblages in the close fight and facilitates rapid resupply.

As of September 2013, an improved **Individual First Aid Kit (IFAK)** named the IFAK II is available for issue to deploying Soldiers. The IFAK II features ambidextrous opening, a lower profile that prevents snagging hazards during vehicle ingress/egress, allows Soldiers to obtain a better and more stable prone firing position and increases their capability to provide life saving trauma care. The IFAK



It includes two externally located tourniquets, a chest seal, an eye shield and a cutting tool. It also includes a Tactical Combat Casualty Care (TCCC) card with marking device to record and provide communication about the Soldier's injuries and treatment from the point of injury to successive levels of care.

PROGRAM STATUS

- ✓ Looking for additional sources for quick-release hardware currently used in MOLLE
- ✓ Ongoing improvements
- ✓ MOLLE Airborne Rucksack
- ✓ Improved MOLLE Medic Set

PROJECTED ACTIVITIES

- + Product improvements



Individual Soldier Hydration



MISSION

Provides the Soldier with a portable means of water carriage for individual hydration.

CONTRACTORS

One-Quart Canteen

Seattle Lighthouse for the Blind (Seattle, WA)

One-Quart Canteen Cover

Federal Prison Industries (Washington, DC)

Two-Quart Collapsible Canteen

Seattle Lighthouse for the Blind (Seattle, WA)

Two-Quart Canteen Cover

Federal Prison Industries (Washington, DC)

Cold Weather (Insulated) Canteen

General Dynamics Armament and Technical Products Inc. (Charlotte, NC)

MOLLE Hydration System

National Industries for the Blind (Alexandria, VA)



Individual Soldier Hydration

The **One-Quart Canteen** is a rigid plastic container for everyday hydration. The cover has an outer pocket for water purification tablets. It attaches to the Soldier's equipment belt or load-carrying equipment.

The **Two-Quart Collapsible Canteen** is a flexible plastic container for everyday hydration.. The canteen cover has an outer pocket for water purification tablets. Soldiers can carry the canteen over the shoulder using a strap. It can also attach to the Soldier's equipment belt or load-carrying equipment. It collapses when drained for less bulk.

The **Cold Weather Canteen System** is a one-liter stainless steel canteen with insulated carrier, ensures sufficient Soldier hydration during operations in extremely cold environments (minus 40 degrees Fahrenheit). The insulated carrier attaches to the Soldier's equipment belt or load-carrying equipment. This item is no longer in production.

The **Modular Lightweight Load-carrying Equipment (MOLLE) Hydration System** is an ergonomically designed water bladder with carrier, can be worn individually or integrated with load-bearing equipment or web harness systems. The bladder includes a drink tube with bite valve, a positive shut-off, and an exterior fill port. The MOLLE Hydration System is not meant for use in a chemical environment. The carrier consists of abrasion-resistant 1000D Cordura™ nylon, has a sternum strap for added stability and has a handle for filling on the go.

PROGRAM STATUS

- ✓ One-Quart Canteen, Two-Quart Collapsible Canteen, Cold Weather Canteen System and MOLLE Hydration System are in sustainment

PROJECTED ACTIVITIES

- + On the Move Hydration (OTMH): Multi-purpose Personal Hydration System (MPHS) and Individual Water Treatment Device (IWTDT)



ONE-QUART CANTEEN



TWO-QUART
COLLAPSIBLE CANTEEN



MODULAR LIGHTWEIGHT LOAD-
CARRYING EQUIPMENT (MOLLE)
HYDRATION SYSTEM



COLD WEATHER CANTEEN
SYSTEM



Sleep Systems



MISSION

Provides combat personnel with modular-concept sleep equipment to enhance Soldier comfort in diverse environmental conditions.

CONTRACTORS

MSS (Sleeping Bags and Bivy Cover)

Tennier Industries Inc. (Pomona, NY)

Sleeping Mat

National Institute for the Severely Handicapped Inc. (Vienna, VA)

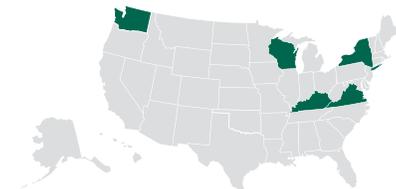
Pioneer Vocational Industrial Services (Danville, KY)

Self Inflating Sleeping Mat

Cascade Designs Inc. (Seattle, WA)

Field Tarpaulin

ORC Industries Inc (La Crosse, WI)



Sleep Systems

The **Modular Sleep System (MSS)** is a bag-within-a-bag. The MSS consists of a camouflaged, waterproof, breathable bivy cover, a lightweight patrol sleeping bag and an intermediate cold weather sleeping bag. Compression sacks store and carry the system. The MSS is available in colors compatible with the **Universal Camouflage Pattern (UCP)**. The patrol bag provides cold weather protection from 35 to 50 degrees Fahrenheit. The intermediate bag provides cold weather protection from minus 5 to 35 degrees Fahrenheit. Together, the patrol bag and intermediate bags provide extreme cold weather protection in temperatures as low as minus 30 degrees Fahrenheit. Soldiers can use the bivy cover with each of three MSS configurations (patrol, intermediate or combined) to be compatible with the environment in which the system is being used. The bivy cover provides environmental protection from wind and water. Sleeping bags consist of ripstop nylon fabrics and continuous filament polyester insulation. Camouflage bivy cover consists of waterproof, breathable, coated or laminated nylon fabric. The compression sacks consist of water-resistant and durable nylon fabric.

The **Sleeping Mat** is a foliage green, closed-cell polyethylene foam pad. Two permanently attached straps secure the mat when in a rolled configuration for carrying. The mat can serve as a ground insulator under the MSS to provide insulation from the cold ground.

Soldiers use the **Self-Inflating Sleeping Mat** in the same manner as the sleeping mat. It has an open cell foam core sandwiched between, and laminated to, a foliage green, air-impermeable, coated nylon fabric with a plastic valve in one corner. Once unrolled, the air valve opens and allows air to enter the mat as the foam expands. The air valve maintains the expanded mattress during use, and is later reopened to expel the air during rolling for carry and storage.

The **Field Tarpaulin** enables Soldiers to operate in inclement weather such as rain, light snow and wind. With multiple snaps and tie-down points, the tarp can be worn on the body, laid on the ground for a ground cloth under the Modular Sleep System, made into a shelter suspended from trees and/or mad made objects, or used to cover equipment. The Field Tarp is larger than the previously issued Poncho, Wet Weather to provide more coverage for taller Soldiers but, unlike the Poncho, Wet Weather, has no hood.



MODULAR SLEEP SYSTEM
(MSS)

PROGRAM STATUS

- ✓ All items in sustainment available by requisition from the Defense Logistics Agency Troop Support (DLA Troop Support)
- ✓ Fielded via the Rapid Fielding Initiative (RFI)
- ✓ **FY14:** Ongoing initiative to adopt the U. S. Marine Corps (USMC) Sleep System

PROJECTED ACTIVITIES

Soldier Sleep System

- + **FY15:** Milestone C for the Soldier Sleep System (four components of the USMC Sleep System)



SELF-INFLATING
SLEEPING MAT



Improved Camouflage Face Paint



MISSION

Provides a topically applied camouflage solution for the Soldier in the visible and near-infrared regions of the electromagnetic spectrum, as well as protection against thermal imagers and insects.



CONTRACTORS

Iguana LLC (Thomasville, GA)

Improved Camouflage Face Paint

Soldiers use **Camouflage Face Paint (CFP)** on all exposed skin to provide passive camouflage protection in the visible and near-infrared regions of the electromagnetic spectrum. It also protects against thermal imagers, which operate in the mid- and far-infrared regions of the spectrum. The current camouflage compact is a cosmetic-like container with an acrylic mirror and compartments containing four colors. The improved camouflage container will consist of two sticks of two colors each—one with a DEET additive and one without.



PROGRAM STATUS

✓ In sustainment

PROJECTED ACTIVITIES

+ None



Ghillie Suit Accessory Kit (GSAK) Upgrade



MISSION

The GSAK provides the Soldier with improved protection from flame and thermal threats as well as providing counter-surveillance protection, increased multi-climate protection and enhanced comfort.



CONTRACTORS

Source One Distributors (Wellington, FL)

Ghillie Suit Accessory Kit (GSAK) Upgrade

The **Ghillie Suit Accessory Kit (GSAK) Upgrade** provides surveillance units and snipers with various camouflage multifunctional materials. They can construct, repair and modify Ghillie Suits to meet unique mission and climatic requirements. The upgrade kit consists of universal netting, over whites, flame-resistant jute, nylon cord, sewing kit, camo-pack, zip ties, dye packs, seam grip, Cordura™, nylon webbing, Fas-tex fasteners, gun sleeve, hook and loop, and suspenders. They are used to fabricate and maintain one Ghillie Suit. The GSAK upgrade affords the Soldier enhanced agility, multi-system operability and anti-odor/anti-microbial properties.



PROGRAM STATUS

- ✓ Continue to issue to deploying Soldiers in support of (ISO) Operation Enduring Freedom (OEF)

PROJECTED ACTIVITIES

- + Work with DLA to assign individual component NSNs to allow units to more easily sustain.



Lightweight Performance Hood (LPH)



MISSION

Offers the Soldier improved protection from flame and thermal threats, as well as counter-surveillance protection, increased multi-climate protection and enhanced comfort.



CONTRACTORS

Dawn Enterprises (Blackfoot, ID)
Southeastern Kentucky Rehabilitation Industries (Corbin, KY)

Lightweight Performance Hood (LPH)

The **Lightweight Performance Hood (LPH)** is a flame-resistant, no-melt, no-drip head-and-face covering. It provides the Soldier with protection from thermal threats and minimizes heat stress in hot-dry climates. It also provides limited heat retention in cool climates. It is a one-size-fits-all item featuring a ventilated mesh top to minimize heat stress beneath the **Advanced Combat Helmet (ACH)**. The LPH is anti-microbial, anti-odor and moisture wicking, and replaces the Combat Vehicle Crewman Hood and Anti-Flash Hood. Its issue rate is two per Soldier.

PROGRAM STATUS

- ✓ It is included as component of the Fire Resistant Environmental Ensemble (FREE)

PROJECTED ACTIVITIES

- + In sustainment-available at the Central Issuing Facilities.



Chemical Protective Clothing



MISSION

Protects the Soldier from chemical and biological (CB) contamination during battle and other mission operations.

CONTRACTORS

FIS-C

Morning Pride Manufacturing (Dayton, OH)
Interspiro (Branford, CT)

SCALP

Harris Manufacturing Co. (Trenton, NJ)

JSLIST

ReadyOne (El Paso, TX)
Group Home Foundation (Belfast, ME)
Creative Apparel (Belfast, ME)

JPACE

Creative Apparel (Eastport, ME)



Chemical Protective Clothing

The **Chemical Protective Undergarment (CPU)** is a two-piece “form-fitting” design worn under the combat vehicle crewman (CVC) or aviator uniform. When worn with a new duty uniform, the system will provide 12 hours of liquid and vapor protection from chemical agents. The CPU is snug-fitting and air permeable. The CPU is no longer manufactured and the remaining CPU stocks will be used until the supply is exhausted.

The **U.S. Army Firefighter’s Integrated Suit-Combat (FIS-C)** protects military firefighters in accordance with National Fire Protection Association standards and provides CB protection during firefighting. The FIS-C consists of a proximity coat, proximity trousers, gloves, helmet, standard firefighting boots, Nomex balaclava, self-contained breathing apparatus with chemical kit, Joint Service Lightweight Integrated Suit Technology (JSLIST) overgarment, CB gloves/liners and carrying bag.

The **Suit, Contamination Avoidance, Liquid Protective (SCALP)** is an impermeable, lightweight, inexpensive disposable ensemble that provides supplemental protection when worn over standard chemical protective garments. SCALP consists of a jacket, trousers and two footwear covers worn over the chemical protective overgarment and overboots. All components provide protection from liquid contamination for up to one hour.

The **Joint Service Lightweight Integrated Suit Technology (JSLIST)** ensemble is the first Department of Defense (DoD)-managed CB protection overgarment. The JSLIST is a two-piece garment worn over the standard duty uniform with butyl rubber gloves, Black Vinyl Overshoes or Alternative Footwear System overboot, and the M40 or M50 chemical protective mask. The JSLIST provides the Soldier with 24 hours of chemical protection in a contaminated environment after 45 days of wear and six launderings.

The **Joint Protective Aircrew Ensemble (JPACE)** is a one-piece coverall that provides CB protection and flame resistance for aircrews. Army aviators wear the JPACE with a vapor protective neck dam to provide added protection in the head and neck region. The JPACE provides the Soldier with 16 hours of chemical protection in a contaminated environment after 30 days of wear. The JPACE integrates and is compatible with legacy and new CB clothing items and chemical masks.

PROGRAM STATUS

- ✓ Continue JPACE surveillance testing every five years
- ✓ Continue fielding JPACE to Army aviation units

PROJECTED ACTIVITIES

- + Sustainment



JC3



JOINT PROTECTIVE
AIRCREW ENSEMBLE
(JPACE)



JOINT SERVICE
LIGHTWEIGHT INTEGRATED
SUIT TECHNOLOGY (JSLIST)



CHEMICAL PROTECTIVE
UNDERGARMENT (CPU)



Chemical Protective Clothing – Accessories



MISSION

Protects the Soldier from chemical and biological (CB) contamination during battle and other mission operations.

CONTRACTORS

CB Protective Equipment Bag

National Institute for the Blind (Seattle, WA)

Chemical Protective Helmet Cover

Human Technologies (Utica, NY)

Chemical Protective Glove Set

Guardian Manufacturing (Willard, OH)

AFS

Airboss Defense (Quebec, Canada)

JB2GU nFR

Airboss Defense (Quebec, Canada)



Chemical Protective Clothing–Accessories

The **Chemical and Biological (CB) Protective Equipment Bag** consolidates and transports the CB protective gear. It consists of an abrasion-resistant nylon and incorporates a roll down quick-release buckle closure system. Modular Lightweight Load-carrying Equipment (MOLLE) style web loops stitched to the carrier accept cargo tie-down straps and attach to the current and developmental load-carrying equipment. The bag is resistant to petroleum, oils and lubricants, corrosion, fungus, insect repellent and salt water.

The **Chemical Protective Helmet Cover** is a one-piece configuration made of butyl rubber-coated nylon cloth. It gathers at the opening by elastic webbing enclosed in the hem. It provides any standard helmet with protection from CB contamination.

The **Chemical Protective Glove Set** includes the impermeable butyl rubber gloves with cotton knit liners, which protect the hands in a chemical-threat environment. The gloves have right- and left-hand five-fingered configurations, and are shaped to follow the natural curvature of the hand in a relaxed position. The inner permeable cotton five-finger gloves provide comfort and fit either hand.

The **Alternative Footwear System (AFS)** consists of an impermeable compounded butyl rubber with improved traction and durability over the GVO/BVO legacy items. AFS boots have slip coat treatment on the inside for ease of donning and doffing. Elastic loops pull over three metal fasteners to close the gusset expansion after donning. Soldiers wear the AFS over standard combat boots to provide chemical protection when needed and moisture protection during wet weather. The AFS provides 24 hours of protection against all known CB agents for a maximum wear of 45 days.

The **Integrated Footwear System (IFS)** consists of a CB protective sock/liner system that is worn under normal combat footwear in lieu of the chemical protective overboot. The IFS is made from selectively permeable membrane materials and incorporates a Nomex elastic cuff. It is flame resistant and provides 16 hours of CB footwear protection.

The **Joint Block I Glove Upgrade (JBIGU)** is a two-layer glove system with a liner made with a polytetrafluoroethylene (PTFE) membrane and nomex outer glove. The JBIGU provides 24 hours of protection against all known CB agents after 14 days/84 hours of active wear (6 hours/day) and improved FR over the current butyl rubber/summer flyer glove system.

The **Joint Block II Glove Upgrade (JB2GU)** Non-Flame Resistant (nFR) consists of impermeable articulated butyl rubber that provides increased tactility and dexterity over the current 25-mil butyl rubber glove. The JB2GU nFR provides 24 hours of protection for 30 days of wear.

PROGRAM STATUS

- ✓ All items available for requisition

PROJECTED ACTIVITIES

- + **FY14/15:** Continue the transition of the current 25-mil butyl rubber gloves to JSLIST Block II Glove Upgrade nFR
- + **FY14/15:** Continue surveillance testing of the Chemical Protective Glove Set and AFS.



ALTERNATIVE FOOTWEAR SYSTEM (AFS)



GREEN VINYL OVERBOOT/BLACK VINYL OVERBOOT (GVO/BVO)



CHEMICAL PROTECTIVE GLOVE SET (JB2GU)



CHEMICAL PROTECTIVE HELMET COVER



Military Free Fall (MFF) Parachute System



MISSION

Maximizes the success of Army free fall missions by enabling clandestine insertion.



CONTRACTORS

MFF ARAPS

Airborne Systems North America,
Pennsauken, NJ

EAAD

SSK Industries (Lebanon, OH)

POM

Carleton Technologies Inc. (Orchard
Park, NY)

Military Free Fall (MFF) Parachute System

The **Military Free Fall (MFF) Advanced Ram Air Parachute System (ARAPS)** is a multi-mission, high-altitude parachute delivery system. It allows Soldiers to exit at altitudes between 3,500 feet and 35,000 feet. The parachute, which replaces the current MC-4 parachute, supports a total jumper weight of 450 pounds. It also provides non-MFF personnel with a ram air parachute that is static-line deployed.

The ARAPS' three accessory systems are at different stages of the acquisition process:

The **Electronic Automatic Activation Device (EAAD)** is used with current and next-generation parachute systems, replacing the Automatic Ripcord Release. EAAD provides a simpler and more reliable method of activation in the event the parachutist is unable to deploy the parachute at the appropriate altitude. The EAAD activates and cuts the reserve parachute closing loops if the jumper is falling at 78 mph or faster at the minimum deployment altitude.

The **Navigation Aid (NAVAID)** will provide in-flight navigation and mission planning capability. It allows parachutists under canopy to easily locate themselves and the intended drop zone. The system utilizes a GPS that integrates with the Mission Planner of the Joint Precision Airdrop System (MP JPADS). This ensures accurate canopy flight and drop zone landings to within 100 meters of the target drop zone.

The **Parachutist Oxygen Mask (POM)** will provide supplemental oxygen at 13,000 feet and higher, and will be easier to use and maintain than the current MBU-12P mask. The POM will not interfere with the parachutist's vision or range of motion and the oxygen hose runs behind the jumper's shoulder so as to not interfere with ripcord deployment



PARACHUTIST OXYGEN MASK (POM)



PROGRAM STATUS

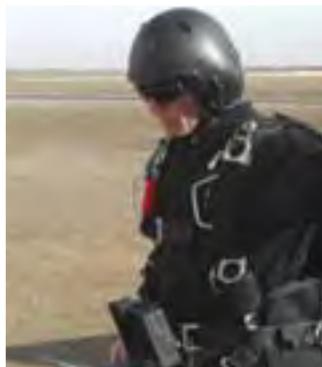
- ✓ Equipping first unit this year with the MFF ARAPS.
- ✓ Full Rate Production approved 22 May 2014

PROJECTED ACTIVITIES

- + Initial fielding will begin in August 2014



MILITARY FREE FALL (MFF)
ADVANCED RAM AIR PARACHUTE
SYSTEM (ARAPS)



NAVIGATION AID (NAVAID)



ELECTRONIC AUTOMATIC ACTIVATION
DEVICE (EAAD)



Maneuverable Canopy (MC) Personnel Parachute System



MISSION

Enables the parachuting Soldier to steer toward a specific impact point in the drop zone.



CONTRACTORS

MC-6

Airborne Systems NA (Santa Ana, CA)

Aerostar International (Sioux Falls, SD)

Mills Manufacturing Corp. (Asheville, NC)

Pioneer Aerospace Corp. (Columbia, MS)

Maneuverable Canopy (MC) Personnel Parachute System

The **MC-6 Maneuverable Canopy Personnel Parachute System** offers the airborne Soldier a new tactical, static line-deployed, steerable personnel parachute system. It replaces the legacy MC-1 series parachute assembly, associated harness and reserve. The MC-6 has a safer rate of descent, lower opening shock, reduced canopy damage, better turn ratio and a better glide ratio than the MC1-1C. The system operates at higher altitudes with heavier weights. These improvements result in better maneuverability, greater canopy control and reduced jumper injury. This is a combined U.S. Army and Special Operations Command project. The Army Acquisition Objective (AAO) is 25,649.

The MC-6 is functional throughout the full spectrum of operational and environmental conditions. The MC-6 integrates the maneuverable main canopy (SF-10A) with the T-11 harness and T-11 reserve parachute (T-11R).

The MC-6 main and reserve canopies consist of 1.1 ounces low-porosity ripstop nylon. Block construction facilitates manufacturing and repair. The container bag is made of Cordura™, an abrasion and water-resistant fabric. The harness is Type 7 webbing.

The main canopy assembly weight with T-11 harness is 26 pounds. The T-11R reserve assembly weight is 15 pounds. Main canopy is 32 feet in diameter; the reserve canopy is 24 feet in diameter.

Small teams use the MC1-1C during airborne operations and training. The parachute has a parabolic shape with an H-TC shape configuration in the rear with 60 square feet of canopy removed. It has a nominal diameter of 35 feet and weighs 28 pounds.



PROGRAM STATUS

- ✓ Continue fielding until August 2014.

PROJECTED ACTIVITIES

- + Sustainment



Non-Maneuverable Canopy (T-11) Personnel Parachute System



MISSION

Provides the Soldier with a parachute capable of handling heavier jump weights with a more stable, slower rate of descent.



CONTRACTORS

Aerostar International (Sioux Falls, SD)
Airborne Systems NA (Santa Ana, CA)
BAE Systems (Phoenix, AZ)

Non-Maneuverable Canopy (T-11) Personnel Parachute System

The **Non-Maneuverable Canopy (T-11) Personnel Parachute System** is the next-generation personnel parachute system. The T-11 provides the airborne Soldier with the first wholesale modernization of the tactical parachute system since the 1950s. The T-11 includes a completely redesigned main and reserve parachute and an integrated harness assembly that is suitable for the 5th percentile to the 95th percentile Soldier.

The main canopy is a modified version of a cross/cruciform platform. The canopy has an increased inflated diameter of 14 percent and a 28 percent increase in surface area, when compared with the T-10D assembly. The T-11 main canopy uses a unique deployment sequence to reduce the opening shock and canopy oscillation. The T-11 has an average rate of descent of 19 feet per second for the 95th percentile Soldier, compared with 24 feet per second with the T-10D. This results in significantly lower landing injury rates for jumpers.

The reserve canopy is a proven derivative of the British Low Level Parachute (LLP) aero-conical design. It includes apex scoop pockets at the top of the reserve canopy and skirt assist lines at the system's hem to promote fast opening of the reserve system during low-speed malfunctions. Unlike the current reserve parachute system, the T-11R reserve uses an omni-directional, center-pull deployment system. The T-11 harness displaces opening shock forces of the reserve parachute equally along the long axis of the jumper's body.



PROGRAM STATUS

- ✓ Fielding completed September 2014.
- ✓ In sustainment with Defense Logistics Agency-Aviation (Richmond, VA)

PROJECTED ACTIVITIES

- + None.



Modular Airborne Weapons Case (MAWC)



MISSION

Provides the capability to deliver a parachutist weapon and select items of equipment without having to provide additional cushioning material. The case has a divider allowing a weapon and other special equipment, such a halligan tool or another weapon like a shotgun to be jumped at the same time. The MAWC is adjustable in length and width in both the large and small size case.



CONTRACTORS

Aerial Machine and Tool (Meadows of Dan, VA)

Modular Airborne Weapons Case (MAWC)

The **Modular Airborne Weapons Case (MAWC)** provides the capability to deliver a parachutist weapon and select items of equipment without having to provide additional cushioning material. The case has a divider allowing a weapon and other special equipment, such a halligan tool or another weapon like a shotgun to be jumped at the same time. The MAWC is adjustable in length and width in both the large and small size case.



PROGRAM STATUS

- ✓ First Unit Equipped (Ranger Regiment)

PROJECTED ACTIVITIES

- + Continue fielding through FY15

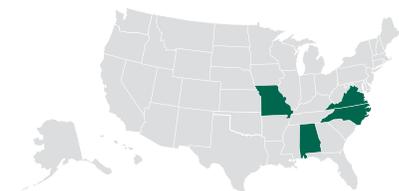


Parachutist Equipment



MISSION

Secures individual mission-essential equipment to the parachutist while in the aircraft, during exit, and during main parachute deployment and descent.



CONTRACTORS

HSPR

Huntsville Rehabilitation Foundation
(Huntsville, AL)

PDB

Eagle Industries (Fenton, MO)

M-1950 Weapons Case

Federal Covers and Textiles (Kenly, NC)
Aerial Machine & Tool Corp. (Vesta, VA)

Parachutist Equipment

The **Harness, Single-Point Release (HSPR)** is used to secure equipment to the parachutist, and consists of nylon webbing with friction adapters, two adjustable leg straps, two D-ring attaching straps and a lowering line. The harness secures around the equipment load. It allows for a simultaneous release of the load and leg straps from the parachutist and parachute harness.

The **Enhanced Parachutist Drop Bag (EPDB)** consists of an incorporated single point release, which utilizes a three ring release, a modular lowering line and rigging design to accommodate both static-line and freefall configurations, and shoulder straps on exterior. It is compatible with standard equipment the Soldier currently carries and/or wears during parachute operations. The EPDB will carry loads ranging from 35 lbs to 120 lbs when rigged for jump operations and can be adjusted to accommodate all bag sizes ranging from Assault Pack to Large MOLLE.

The **M-1950 Weapons Case**, a padded case, is made of cotton duck or nylon, and carries individual or crew served weapons. It protects both the jumper and the weapon from injury/damage during airborne operations.



The M-1950 Weapons Case must be rigged with a lowering line when the case and weapon weight is more than 35 pounds. The M-1950 is being replaced by the Modular Airborne Weapons Case.

The **Universal Parachutists Kit Bag (UPKB)** is a recovery bag for personnel parachute with approximately 10,500 in³ of storage space, a main compartment capable of storing both main and reserve canopies for both static line (SL) and Military Free Fall (MFF) parachutes, shoulder straps for ease of carrying, top carrying handles for easy transport, and an outer side pocket used for securing a packed T-11R or a helmet.

PROGRAM STATUS

- ✓ The EPDB is currently undergoing user evaluations.

PROJECTED ACTIVITIES

- + Continue sustainment activities



PARACHUTIST DROP BAG (PDB)



HARNES, SINGLE-POINT RELEASE (HSPR)



M-1950 WEAPONS CASE



Army Mountaineering Equipment (AMK)



MISSION

The AMK provides teams, squads and platoons to operate in mountainous, rock, snow and ice-covered terrain the equipment necessary to negotiate steep and vertical terrain safely.

CONTRACTORS

Prime

Pioneer Adult Rehabilitation Center
(Clearfield, UT)

Subcontractors

Cascade Designs (Seattle, WA)
CMI - Colorado Mountain Industries Corp.
(Franklin, WV)
Grainger (Lake Forest, IL)
Airsports (Bristol, RI)

Kwikpoint (Alexandria, VA)
Metolius Climbing (Bend, OR)
Misty Mountain Threadworks (Banner Elk, NC)
HTC - Human Technologies Corp. (Utica, NY)
New England Ropes (Fall River, MA)
Pearson Industries (Prattville, AL)
Petzl America (Clearfield, UT)
SOS - Survival on Snow (Edmonton, Alberta,
Canada)



Army Mountaineering Equipment (AMK)

The **High Angle Mountaineering Kit (HAMK)**, enables an Infantry Brigade Combat Team platoon of minimally trained Soldiers—operating in steep, vertical and near vertical terrain, void of ice and snow—to move over rope installations established by trained assault climbers.

The **Assault Climber Team Kit (ACTK)** enables trained assault climbers—operating in steep, vertical and near vertical terrain, void of ice and snow—to establish rope installations for minimally trained Soldiers.

The **Snow and Ice Mobility Kit (SIMK)** enables minimally trained Soldiers to move over steep, near vertical and vertical snow- and ice-covered terrain in conjunction with the HAMK and/or ACTK.

The **Squad Mountain Leader Kit (SMLK)** enables Special Forces Mountain Team-sized qualified Mountain Leaders to move over steep, near vertical and vertical earth, and rock-, snow- and ice-covered terrain.

PROGRAM STATUS

- ✓ Fieldings ongoing to Units with a mountaineering mission

PROJECTED ACTIVITIES

- + Transitioned to sustainment to enable support by Central Issuing Facilities.





“One of the officers in my battalion; his vehicle was hit by an EFP (Explosively Formed Penetrator). If it wasn't for his ACH helmet, he would have died.”

– **CSM Sam Young**

PRODUCT MANAGER SOLDIER PROTECTIVE EQUIPMENT (PM SPE)



Increase Warfighter lethality and mobility by optimizing Soldier protection while effectively managing all lifecycle aspects of personal protective equipment.



The **Advanced Combat Helmet (ACH)** provides ballistic protection in a lightweight, comfortable system. The ACH can also support sensor systems to provide potentially valuable information about battlefield head injuries.



The **Soldier Plate Carrier System (SPCS)** provides ballistic protection equal to, or greater than, the Improved Outer Tactical Vest in a stand-alone capacity. It can do this while reducing the Soldier's load, enhancing comfort and optimizing mobility. The SPCS gives commanders more choices in how to carry out their missions while giving Soldiers greater flexibility to operate in demanding terrain.

Body Armor, Interceptor (IBA)



MISSION

Provides the Soldier with enhanced protection from small arms threats and fragmentation munitions during ballistic and blast events, while maintaining comfort and maneuverability.

IOTV

BAE Systems (Dunmore, PA)
KDH (Eden, NC) (annotated on the quad charts)
Protective Products Enterprise (Sunset Beach, FL) (IOTV and FIOTV) (annotated on the quad charts)
UNICOR (Yazoo, MS)
Carter Enterprises

ESAPI

BAE Systems (Phoenix, AZ); Ceradyne Inc. (Costa Mesa, CA);

ESBI

ArmorWorks (Tempe, AZ), Ceradyne Inc. (Costa Mesa, CA); Leading Technology Composites Inc. (Wichita, KS)

XSAPI

BAE Systems (Phoenix, AZ); Ceradyne Inc. (Costa Mesa, CA)
BAE Systems (Dunmore, PA)
KDH (Eden, NC)
Protective Products Enterprise (Sunset Beach, FL) (IOTV and FIOTV)
UNICOR (Yazoo, MS)
Carter Enterprises



Body Armor, Interceptor (IBA)

Interceptor Body Armor (IBA) is a modular protective system consisting of an outer vest, ballistic plates and ancillary components that increase the area of coverage. IBA can defeat a variety of small arms and fragmentation threats, thus reducing the number and severity of wounds. In addition to its protective qualities, newer generations of IBA provide Soldiers with lighter-weight comfort and greater maneuverability.

The **Generation III/IV Improved Outer Tactical Vest (IOTV)**, provides protection from shrapnel producing munitions and 9mm rounds. When used in conjunction with the **Enhanced Small Arms Protective Insert (ESAPI)** and **Enhanced Side Ballistic Insert (ESBI)** hard armor plates, the IOTV provides additional rifle protection to the front, back and side of Soldier's torso. **Ancillary Components** consist of Deltoid protectors compatible with the IOTV which provides protection from handgun and fragmentation to the upper arm area. Throat, lower back, and groin protection provide additional fragmentation coverage as needed.

The IOTV is a side-opening vest that has an increased area of coverage over the Outer Tactical Vest (OTV). It includes multiple adjustment points to improve fit, weight distribution and load-carriage capabilities. The IOTV has a single point activated quick-release feature added to the front of the vest which allows a Soldier to doff the vest and its attachments in an emergency situation. The IOTV comes in 19 sizes, 11 gender non-specific and eight female specific including three long sizes. A medium IOTV provides 1,085 square inches of fragment and ballistic protection.

Female Improved Outer Tactical Vest (FIOTV) is a variant of the IOTV Gen III. The sizing system for the FIOTV accommodates the female population across 8 new sizes. The vest incorporates design changes that are more form fitting to female Soldiers while maintaining all ballistic properties



PROGRAM STATUS

- ✓ The sustainment of the IOTVs managed by the TACOM OCIE for Central Management Office (Central Issuing Facilities)
- ✓ 2nd Brigade Combat Team FIOTV fielding

PROJECTED ACTIVITIES

- + Initiate transition from Gen III to Gen IV through existing production activities, realizing a approximate 19% weight savings.



Body Armor, Ultra Low Visible Concealable (ULV CBA)



MISSION

Provides maximum concealability with optimum mobility, protection and comfort. Suitable for operational environments ranging from hostile to uncertain that requires a high level of small arms protection without presenting an aggressive protective posture.



CONTRACTORS

Velocity Systems (Dulles, VA)

Body Armor, Ultra Low Visible Concealable Body Aromor (ULV CBA)

The **Ultra Low Visible Concealable Body Armor (ULV CBA)** is a concealable, lightweight and flexible vest that allows free range of motion and protection against small arms threats.

The ULV CBA is for Soldiers and other U.S. Armed Forces operating in an environment or conducting activities that necessitate a high level of ballistic protection without revealing their body armor protective posture. .

The missions of these service personnel expose them to a variety of threats from small arms. The ULV CBA provides ballistic protection against prevalent rounds found in current theaters of operation.

PROGRAM STATUS

- ✓ ULV CBA inventory is available in select CONUS and OCONUS locations. Inquiries from
- ✓ interested parties can be forwarded to PEO Soldier for consideration. .

PROJECTED ACTIVITIES

- + The next generation ULV CBA is currently being pursued through an active solicitation; production capability is expected late 1QFY15



Soldier Plate Carrier System (SPCS), Generation II



MISSION

Provides ballistic protection equal to the Improved Outer Tactical Vest in a standalone capacity which reduces the Soldier load and provides optimum mobility.

CONTRACTORS

KDH Defense Systems Inc. (Eden, NC) – GEN I

Carter Enterprises (Brooklyn, NY) – GEN II



Soldier Plate Carrier System (SPCS)

The **Generation II Soldier Plate Carrier System (SPCS)** provides protection from fragments and 9mm rounds when used in conjunction with the Enhanced Small Arms Protective Insert (ESAPI), which protects the Soldiers' vital organs. The X-Threat Small Arms Protective Insert (XSAPI) and X-Threat Side Ballistic Insert (XSBI) plates are an augmentation to the (ESAPI/ESBI), which meets near-term emerging threats and provides additional ballistic protection against a more lethal small-arms round. The medium SPCS is approximately 5.85 pounds without ballistic plates and approximately 21.85 pounds with ballistic plates. The SPCS has adjustable shoulder and side straps to secure a proper fit. Other features include an optional cummerbund for increased stability, padded shoulders, an improved emergency quick release mechanism, Soldier-down drag strap and Modular Lightweight Load-carrying Equipment (MOLLE) webbing for securing mission-essential equipment.

The SPCS is compatible with the Soldier's basic fighting ensemble. It allows carriage of essential equipment including M-4/M-16 magazines, hydration system and squad radio. It offers the comfortable, secure and balanced wear of a day pack or rucksack.

The SPCS is available in six sizes from X-small through XX-large.



PROGRAM STATUS

- ✓ SPCS deliveries start

PROJECTED ACTIVITIES

- + SPCS deliveries to be completed.



Advanced Bomb Suit (ABS)



MISSION

Protects the Explosive Ordnance Disposal (EOD) Soldier from threats associated with improvised explosive devices, including fragmentation, blast overpressure, impact, heat and flame.



CONTRACTORS

MED-ENG (Ogdensburg, NY)

Advanced Bomb Suit (ABS)

The **Advanced Bomb Suit (ABS)** is a full-body ensemble that provides protection and comfort for EOD Soldiers. The ABS provides fragmentation protection at various levels, specific to body regions, based on wounding potential. It provides blast overpressure protection for the front of the thorax and impact protection for the head and spine. Flame-resistant materials protect against heat and flame. The suit includes an ice-based cooling system to extend mission duration and hand protection covers which provides increased protection to the back of the hands. Soldiers can doff the system in less than 30 seconds. All ballistic inserts are removable to facilitate laundering and repair.

PROGRAM STATUS

- ✓ The ABS and its replacement parts are sustained by the U.S. Army Tank-Automotive Command – Integrated Logistics Support Center (TACOM-ILSC).

PROJECTED ACTIVITIES

- + Continue sustainment and information support to Foreign Military Sales
- + Continue material improvement efforts.
- + Requirements generation process for the Next Generation Advance Bomb Suit ongoing with EOD requirements community.

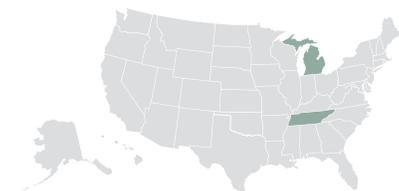


Body Armor, Legacy Concealable (CBA)



MISSION

Provides optimum mobility, protection, comfort and suitability for operational environments ranging from police duties to support of operations other than war.



CONTRACTORS

Armor Express (Central Lake, MI)

Short Bark Industries (Vonore, TN)

Body Armor, Legacy Concealable (CBA)

The **Concealable Body Armor (CBA)** is a concealable, lightweight and flexible vest that allows free range of motion and protection against ballistic threats.

The CBA is for Soldiers in military police units, corrections, confinement and law enforcement operations, Department of Defense investigative and security components, and other U.S. Armed Forces.

The missions of these service personnel expose them to a variety of threats from small arms (handguns and small caliber weapons). The CBA provides ballistic protection against 9mm, .357 and .44 Magnum rounds in accordance with National Institute of Justice IIIA standards.

CBAs produced after 2QFY13 incorporate new interior plate pockets in front and back torso for insertion of Small Arm Protective Insert (SAPI) plates for increased rifle threat protection.

PROGRAM STATUS

- ✓ Inventory is available upon request through the Office of The Provost Marshall General. Inquiries from interested parties authorized CBA can be forwarded to PEO Soldier. .

PROJECTED ACTIVITIES

- + The Legacy Concealable Body Armor is being replaced with the Family of Concealable Body Armor



Family of Concealable Body Armor (FoCBA)



**TYPE 1 BALLISTIC-LEVEL IIIA/STAB LEVEL 1
(IN DEVELOPMENT)**



**TYPE 2 STAB-ONLY LEVEL
(IN DEVELOPMENT)**

MISSION

The FoCBA provides optimum mobility, protection, comfort and suitability for operational environments ranging from police duties to support of operations other than war.



CONTRACTORS

Point Blank Enterprises (Sunrise, FL)
Warwick Mills, Inc. (New Ipswich, NH)

Body Armor, Family of Concealable (FoCBA)

The **Family of Concealable Body Armor (FoCBA)** will initially provide two vests; one with ballistic and stab protection (Type 1) and a second vest with stab-only protection (Type 2). The FoCBA will be comfortable to wear over extended periods of time. It is intended for use by Soldiers in corrections, confinement, law enforcement, intelligence operations, as well as by members of other U.S. Armed Forces. The missions of these service personnel expose them to a variety of threats from small arms (handguns and small-caliber weapons), knives, blades, spikes and other improvised weaponry. The FoCBA offers maximum torso (vital organ body area) coverage and ballistic protection against 9mm full metal jacket (FMJ), .357 and .44 Mag. ammunition per Army Protocol (NIJ 0101.06, Ballistic Resistance of Body Armor), and stab, edge blade and spike protection (NIJ 0115.00, Stab Resistance of Personal Body Armor).



PROGRAM STATUS

- ✓ Procurement and fielding of FoCBA to authorized users

PROJECTED ACTIVITIES

- + The Central Management Office (Central Issuing Facilities) will sustain the FoCBA



Pelvic Protection System (PPS)



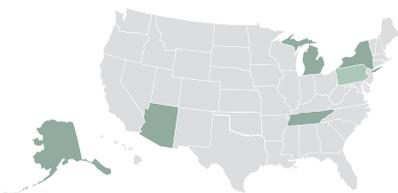
MISSION

Provides pelvic protection capabilities against ground-based improvised explosive device (IED) threats for all forward-deployed U.S. Troops who conduct dismounted operations “outside the wire” and are participating in direct combat operations.

CONTRACTORS

POG – Crye Precision (Brooklyn, NY)
POG – ArmorWorks (Chandler, AZ)
PUG – Short Bark Industries (Vonore, TN;
manufactured in Puerto Rico)
PUG – Carter Enterprises (Brooklyn, NY)
PUG - Armor Express (Central Lake, MI)

PUG – Armor Express (Central Lake, MI)
PUG – Carter Enterprises (Brooklyn, NY)



Pelvic Protection System (PPS)

The **Pelvic Protection System (PPS)** is a two-tiered system: Tier I Protective Under Garment (PUG) and Tier II Protective Outer Garment (POG). The PUG is a lightweight ballistic protective under garment worn next to the skin that comes in 14 sizes; seven female and seven male. It provides improved protection of the pelvis, femoral arteries and lower abdominal organs in a blast or fragmentation event. The PUG also reduces the penetration of dirt into wounds to minimize the risk of infection from fine debris. The POG is worn over the Army Combat Uniform (ACU) trousers. It provides fragmentation protection of the pelvis, femoral arteries and lower abdominal organs. The POG provides ballistic protection similar to that of the Improved Outer Tactical Vest (IOTV).



PROGRAM STATUS

- ✓ Fielding PPS to deploying Soldiers through the Rapid Fielding Initiative (RFI)

PROJECTED ACTIVITIES

- + Enduring PPS requirements are addressed in the Soldier Protection System - Torso and Extremity Protection (TEP) capability requirement. Production and fielding of PPS to support beyond wartime requirements is tied to the SPS-TEP and is anticipated to begin production in FY 16



PROTECTIVE UNDERGARMENT (PUG)



Soldier Protection System (SPS)



MISSION

Provides the Soldier with a modular, scalable integrated system of mission tailorable ballistic protective subsystems at a reduced, from current, weight while maintaining the same level of ballistic protection and mobility provided by the current PPE systems.



CONTRACTORS

TBD

Soldier Protection System (SPS)

The **Soldier Protection System (SPS)** provides an Integrated Head Protection System (IHPS [helmet, maxillofacial, and hearing]), Vital Torso Protection (VTP [hard armor front, back, and side plates]), Torso and Extremity Protection (TEP [soft armor]), and Transition Combat Eye Protection (TCEP). It also provides an Integrated Soldier Sensor System (ISSS) which measures blast and blunt trauma (head) along with a physiological status monitor. Providing a lightweight modular, scalable and tailorable suite of protective equipment allows for appropriate levels of protection without hindering mobility or mission effectiveness. By providing more modular protection, the SPS enables Soldiers to accomplish diverse mission tasks. It allows the commander to transition quickly from one mission type to another without degrading the momentum of small unit operations. All capabilities considered in the design of the SPS will focus on reducing weight, maximizing Soldier ergonomics and human factors, while providing ballistic, blast, blunt impact, fragmentation and flame protection.



PROGRAM STATUS

- ✓ Completed Vital Torso Protection, Transitional Combat Eye Protection and Integrated Head Protection System Cost Benefit Analysis (CBA) Human Factors Evaluation (HFE) (all systems)
- ✓ Preliminary Design Review
- ✓ User's Exchange Fort Benning

PROJECTED ACTIVITIES

- + Ballistic/non-ballistic testing and System Human Factors Evaluations Production & Deployment phase
- + Low Rate Initial Production (LRIP) Option Contract Award
- + Full Rate Production Design (FRPD) Review
- + Full Rate Production In Process Review
- + Director of Operational Test & Evaluation (DOT&E) Beyond LRIP Review
- + Initial Operational Capability (IOC)



Advanced Combat Helmet (ACH)



MISSION

Provides the Soldier improved ballistic protection, stability and comfort without degrading vision or hearing.



CONTRACTORS

Gentex (Carbondale, PA)
Revision (Essex Junction, VT)
Armorsource (Hebron, OH)
BAE Systems (Jessup, PA)

The **Advanced Combat Helmet (ACH)** was type classified and has been in use since 2003. It replaced the Personnel Armor System for Ground Troops (PASGT) helmet. The ACH is lighter than the PASGT. It provides improved fragmentation, ballistic and impact protection. The ACH features a pre-drilled Night Vision Device (NVD) bracket hole allowing for integration with fielded NVDs. The ACH includes modular flame and moisture-resistant pads that act as the suspension system, providing impact protection to the Soldier's head. The ACH includes the Improved Retention System (IRS) which improved fit, adjustability and stability. In 2012, the Army improved the ACH by reducing the weight by eight (8) percent while maintaining the same ballistic and non-ballistic performance. The lightweight ACH (LW ACH) is scheduled to begin production in calendar year 2014. The ACH is fielded with the ballistic "nape pad" which attaches onto the retention system to the rear of the ACH. The ballistic nape pad provides ballistic and fragmentation protection for the neck between the bottom of the helmet shell and top of the Body Armor collar.



PROGRAM STATUS

- ✓ The ACH is sustained by the TACOM OCIE for Central Management Office (Central Issuing Facilities).

PROJECTED ACTIVITIES

- + Award additional contracts for the LW ACH procurement (Defense Logistics Agency Troop Support procurement activity)



Enhanced Combat Helmet (ECH)



MISSION

Enhances ballistic protection beyond the current Advanced Combat Helmet (ACH) while providing stability and comfort without degrading the Soldier's field of vision and hearing.



CONTRACTORS

Ceradyne Inc. (Costa Mesa, CA)

Enhanced Combat Helmet (ECH)

The **Enhanced Combat Helmet (ECH)** is a joint service combat helmet that utilizes recent advancements in ballistic technologies. The ECH is manufactured using ultra high molecular weight polyethylene (UHMWPE), replacing the previously used resin-impregnated para-aramids of the ACH. The use of UHMWPE has increased the ballistic and fragmentation protection of the ECH beyond the protection capabilities of the fielded ACH while maintaining a similar weight. The ECH features a pre-drilled Night Vision Device (NVD) bracket hole to allow integration with fielded NVDs. The ECH includes modular, flame-retardant, moisture-resistant pads that act as a suspension system providing impact protection to the Soldier's head. The ECH comes equipped with the Improved Retention System (IRS). This provides the Soldier increased fit and stability as well as ease of adjustment due to the IRS's adjustment slides. The ECH is fielded with the ballistic "nape pad" which attaches onto the retention system to the rear of the ECH. The ballistic nape pad provides ballistic and fragmentation protection for the neck between the bottom of the helmet shell and top of the Body Armor collar.



PROGRAM STATUS

- ✓ Army Delivery order for one year production of ECHs.
- ✓ Initial production lots of ECHs received and deploying units are being equipped.

PROJECTED ACTIVITIES

- + Fielding to deploying Soldiers through Rapid Fielding Initiative (RFI)



Advanced Combat Vehicle Crewman Helmet (ACVC-H)



MISSION

Provides integrated communication and ballistic protection to the mounted Soldier's head, temples, ears and neck without degrading vision, stability and hearing.

CONTRACTORS

Helmet Shell

Gentex (Carbondale, PA)
Armorsource (Hebron, OH)
Ceradyne (Costa Mesa, CA)

Helmet Liner

BAE Systems (Jessup, PA)



Combat Vehicle Crewman Helmet (CVCH)

The **Advanced Combat Vehicle Crewman Helmet (ACVC-H)** consists of an outer shell, inner liner and communications system. The ACVC-H provides 9mm protection and fragmentation protection to mounted personnel while providing communication and noise attenuation capability.

The ACVC-H shell attaches to a fabric mesh inner liner and communication system by snap fasteners and hook-and-pile tape. Fastener mounts on the front of the helmet attach the shell to the chin strap.



PROGRAM STATUS

- ✓ The ACVC-H will be sustained by the TACOM OCIE Central Management Office for the Central Issuing Facilities

PROJECTED ACTIVITIES

- + Award of three (3) three year IDIQ contracts



Generation II Helmet Sensor (GEN II HS)



MISSION

The Generation II Helmet Sensor is intended to gather data that will help scientists better understand and characterize the effects that blast events and head-impact events have on Soldiers.



CONTRACTORS

BAE Systems (Phoenix, AZ) Prime Contractor

DTS (Seal Beach, CA) Subcontractor to BAE

Benchmark (Moorpark, CA) Subcontractor to DTS

Generation II Helmet Sensor (GEN II HS)

The **Generation II Helmet Sensor (HS)** is a small device that is attached inside the helmet under the crown pad to record linear and rotational accelerations of the helmet and blast overpressure. The helmet sensor data is used to determine head motion of the Soldier and associated risk of mild traumatic brain injury (mTBI). The system is not just a piece of hardware. It is a system of hardware, software and people to record, collect, transmit and interpret helmet acceleration data. Field Service Representatives (FSRs) are embedded with deployed Brigade Combat Teams (BCTs) to harvest and transfer helmet sensor data to an online server. The harvested data is analyzed by the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC).

The GEN II HS made by BAE Systems is known as the Headborne Energy Analysis Diagnostic System (HEADS) is a small, lightweight (2.14 ounces), low-power sensor that is mounted in the crown of the Advanced Combat Helmet (ACH) or the Enhanced Combat Helmet (ECH). Helmets with GEN II HS are issued to Soldiers prior to their unit's Mission Rehearsal Exercise (MRE) and remain with the Soldier through deployment. The GEN II HS is considered an expendable item with no formal accountability. The sensor remains with the helmet for eventual turn in and destruction when the helmet becomes unserviceable.



PROGRAM STATUS

- ✓ The HS is being fielded in support of wartime requirements

PROJECTED ACTIVITIES

- + The beyond wartime requirement for a Helmet Sensor capability is included in the Integrated Soldier Sensor System (ISSS) program of record which is anticipated to be procured beginning in FY 17



Military Combat Eye Protection (MCEP), Goggles



ARENA FLAKJAK



ESS LAND OPS



ESS PROFILE NVG



REVISION DESERT LOCUST



SMITH OPTICS OUTSIDE THE WIRE



WILEY X SPEAR

MISSION

Minimize eye injuries to the Soldier during training and deployment. Provides protection from fragmentation, ultraviolet (UV) light, laser threats/hazards, wind, sand and other potential eye hazards.

CONTRACTORS

Commercial Eyewear

- Arena Industries (Trabuco Canyon, CA)
- Eye Safety Systems Inc. (Sun Valley, ID)
- Revision Military LTD. (Essex Junction, VT)
- Smith Optics (Ketchum, ID)
- Wiley-X (Livermore, CA)



Military Combat Eye Protection (MCEP), Goggles

The **Military Combat Eye Protection (MCEP)** helps ensure Soldiers are visually able to carry out their mission. Eye hazards exist in a variety of forms in both combat and training environments. They range from fragmenting munitions and other airborne debris, to invisible hazards such as ultraviolet (UV) radiation. If unprotected, Soldiers are susceptible to short- or long-term effects on their vision. This can compromise current and future mission effectiveness. MCEP helps preserve performance in both combat and training by reducing the risks associated with exposure to such hazards.

MCEP offers eye protection to Soldiers in a variety of sizes and styles. They give Soldiers a choice in eye protection to best suit their needs. Prior to placement on the Authorized Protective Eyewear List (APEL), MCEP eyewear must first undergo rigorous testing. Ballistic fragmentation, optical quality, operational testing and certification to American National Standards Institute (ANSI) Z87.1 Standard for Occupational and Educational Personal Eye and Face Protection Devices are among the tests performed.

Goggles currently authorized for use in military combat and training are:

- Arena Flakjak
- ESS Land Ops
- ESS Profile NVG
- Revision Desert Locust
- Smith Optics Outside the Wire (OTW)
- Wiley-X Spear

For Soldiers who require corrective lenses, four goggles have approved the universal prescription lens carriers:

- ESS Profile NVG
- Revision Desert Locust
- Smith Optics OTW
- Wiley-X Spear

Authorized goggles listed on the APEL can be found at <http://www.peosoldier.army.mil/equipment/eyewear/>

All items have assigned National Stock Numbers (NSNs). Soldiers can purchase them through normal supply channels. Service members who require a prescription may obtain the appropriate prescription lens carrier for their device through their garrison optometry clinic, deployed optometry clinic, or medical support section. Deployed soldiers may also obtain replacement prescription lenses through the G-Eyes website at <https://g-eyes.amedd.army.mil/>.

SPECIFICATION

Capable of defeating a 0.22 caliber, 17 grain, T-37 shaped fragment simulating projectile at 550 feet per second

Weights 5.1 ounces or less

Absorbs 99.9 percent UV light

Meets American National Standards Institute (ANSI) Z87.1 standard for eye protection

PROGRAM STATUS

- ✓ Completed Evaluation of new APEL submissions

PROJECTED ACTIVITIES

- + Establish new APEL list



Military Combat Eye Protection (MCEP), Spectacles



ESS CROSSBOW



OAKLEY SI BALLISTIC M FRAME 2.0



REVISION SAWFLY



SMITH OPTICS AEGIS



UVEX GENESIS



UVEX XC



WILEY X PT-1



WILEY X SG-1



WILEY X TALON



MISSION

Minimizes eye injuries to the Soldier during training and deployment. Provides protection from fragmentation, ultraviolet light, laser threats/hazards, wind, sand and other potential eye hazards.

CONTRACTORS

Commercial Eyewear

Eye Safety Systems Inc. (Sun Valley, ID)
Honeywell International/Sperian Eye and Face Protection Inc. (UVEX brand) (Smithfield, RI)
Oakley USA (Foothill Ranch, CA)

Revision Military LTD. (Essex Junction, VT)
Smith Optics (Ketchum, ID)
Wiley X Eyewear by Protective Optics Inc. (Livermore, CA)



Military Combat Eye Protection (MCEP), Spectacles

The **Military Combat Eye Protection (MCEP)** helps ensure Soldiers are visually able to carry out their mission. Eye hazards exist in a variety of forms in both combat and training environments. They range from fragmenting munitions and other airborne debris, to invisible hazards such as ultraviolet (UV) radiation. If unprotected, Soldiers are susceptible to short- or long-term effects on their vision, which in turn can compromise current and future mission effectiveness. MCEP helps preserve performance in both combat and training by reducing the risks associated with exposure to such hazards.

MCEP offers eye protection to Soldiers in a variety of sizes and styles. This gives Soldiers a choice in eye protection that best suits their needs. Prior to being placed on the Authorized Protective Eyewear List (APEL), MCEP eyewear first qualifies through rigorous testing. Ballistic fragmentation, optical quality, operational testing and certification to American National Standards Institute (ANSI) Z87.1 Standard for Occupational and Educational Personal Eye and Face Protection Devices are among the tests they undergo.

Spectacles currently approved for use in military combat and training are:

- ESS Crossbow
- Oakley SI Ballistic M Frame 2.0
- Revision Sawfly (size small, regular and large)
- Smith Optics Aegis (size small and regular)
- UVEX Genesis
- UVEX XC
- Wiley X PT-1
- Wiley X SG-1
- Wiley X Talon

For Soldiers who require corrective lenses, seven spectacles have approved the universal prescription lens carriers:

- ESS Crossbow
- Oakley SI Ballistic M Frame 2.0
- Revision Sawfly
- Smith Optics Aegis
- UVEX Genesis
- UVEX XC
- Wiley X Talon

Authorized spectacles listed on the APEL can be found at <http://www.peosoldier.army.mil/equipment/eyewear/>



All items have National Stock Numbers (NSNs) and Soldiers can purchase them through normal supply channels. Soldiers who require a prescription may obtain the appropriate prescription lens carrier for their device through their garrison optometry clinic, deployed optometry clinic or medical support section. Deployed soldiers may also obtain replacement prescription lenses through the G-Eyes website at <https://g-eyes.amedd.army.mil/>.

SPECIFICATION

Capable of defeating a 0.15 caliber, 5.8 grain, T-37 shaped fragment simulating projectile at 640 feet per second

Weighs 1.7 ounces or less

Absorbs 99.9 percent UV light

Meets American National Standards Institute (ANSI) Z87.1 standard for eye protection

PROGRAM STATUS

- ✓ Completed Evaluation of new APEL submissions

PROJECTED ACTIVITIES

- + Establish new APEL list in July 2014
- + Conduct bi-annual review of APEL product quality



Soldier Protective Equipment Future Initiatives

INTEGRATED HEAD PROTECTION SYSTEM (IHPS)

Program Executive Office (PEO) Soldier is working to develop a modular advanced helmet system consisting of a retention system, suspension system, maxillofacial protective system, hearing protection, and modular ballistic appliqué. The Integrated HEAD Protection System (IHPS) will provide improved fragmentation, ballistic, and impact protection while reducing weight and improving fit.

The objective of the IHPS are:

- Provide protection against specific 7.62mm threats
- Provide impact protection better than Advanced Combat Helmet (ACH)
- Threshold weights must be five percent lighter than ACH
- Provide Back-Face Deformation (BFD) that will be in accordance with current approved Director of Operational Test & Evaluation (DOT&E) protocol
- Protect Soldier's head from blast events and acceleration impacts
- Serve as modular platform
- Provide protection levels that can be added/removed based on mission requirements
- Provide auditory situational awareness
- Mitigate unprotected steady state and impulse noise

PROJECTED PROGRAM

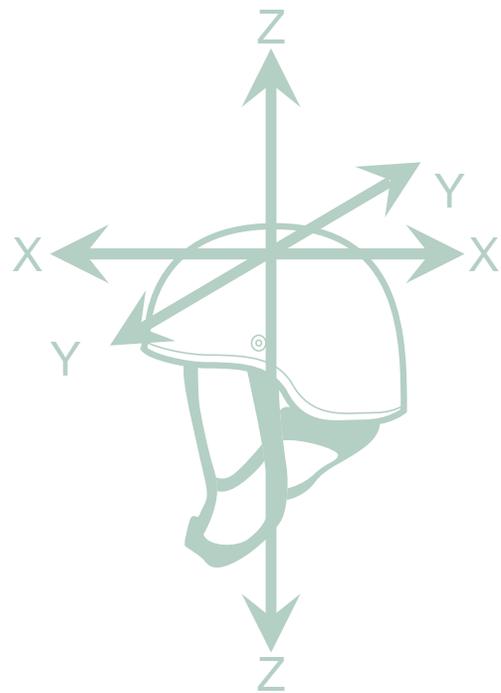
- + **FY13–FY15:** Initial Development
- + **FY15:** Low Rate Initial Production (LRIP)
- + **FY16:** Indefinite Delivery Indefinite Quantity (IDIQ) Award

PROGRAM STATUS

- ✓ **1QFY13:** Industry Day for Integrated HEAD Protection System (IHPS)
- ✓ **2QFY13:** Released solicitation for IHPS
- ✓ **4QFY13:** IHPS solicitation closed and undergoing source selection

PROJECTED ACTIVITIES

- + **1QFY14:** IHPS Contract Award
- + **1QFY14:** IHPS Human Factors Evaluation (HFE) at Ft. Bliss, TX



SIX DOF ALLOWS FOR MEASURING LINEAR AND ROTATIONAL ACCELERATIONS IN THREE-DIMENSIONAL SPACE

Soldier Protective Equipment Future Initiatives



Project Manager Soldier Sensors and Lasers (PM SSL)

Product Manager Soldier Maneuver Sensors

Product Manager Soldier Precision Targeting Devices





PM SSL provides Soldiers with improved lethality, mobility, and survivability in all weather and visibility conditions. Soldier-borne sensors and lasers enhance the Soldier's ability to see in all battlefield and lighting conditions, to acquire objects of military significance before the Soldier is detected, and to target threats accurately for engagement by Soldiers or precision-guided munitions. These systems provide critical, on-the-ground direct support to U.S. forces.

“For thermal sights, I was assigned four PAS-13s. They ended up being a primary means of detection on my patrol base for any type of threat during nighttime hours. Using PAS-13s, we were able to stop a guy from using a small canal that happened to be filled with water. He was trying to swim up the canal and get under a piece of the road that was part of our patrol base. From there he would have been able to easily push his way into our patrol base and breach our wire.”

–CPT N. Manghelli



PRODUCT MANAGER SOLDIER MANEUVER SENSORS (PM SMS)



Product Manager Soldier Maneuver Sensors (PM SMS) is responsible for developing and equipping the Soldier with sensors and lasers to help dominate the battlefield through improved lethality, mobility and survivability in all weather, and visibility conditions.



The **Enhanced Night Vision Goggle (ENVG)** combines image intensification and passive thermal imaging in one system for better situational awareness and increased lethality at night or in degraded battlefield environments.



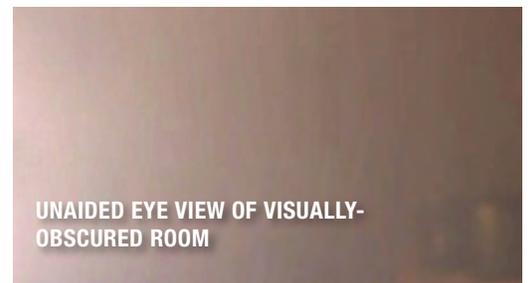
The **Thermal Weapon Sight (TWS)** enables the Soldier to detect and engage targets day or night in all weather and visibility-obscured conditions.

Thermal Weapon Sight (TWS), AN/PAS-13



MISSION

Enables the Soldier to detect and engage targets day or night in all weather and visibility-obscured conditions.



UNAIDED EYE VIEW OF VISUALLY-OBSCURED ROOM



THERMAL IMAGE VIEW OF VISUALLY-OBSCURED ROOM



CONTRACTORS

BAE Systems (Lexington, MA; Manassas, VA; Austin, TX; Manchester, NH)
DRS Technologies (Dallas, TX; Melbourne, FL)
Raytheon (Dallas, TX; Goleta, CA; McKinney, TX; Plano, TX)

Thermal Weapon Sight (TWS), AN/PAS-13

The **AN/PAS-13 Thermal Weapon Sight (TWS)** provides Soldiers with individual and crew served weapons the capability to see deep into the battlefield. It increases surveillance and target acquisition range, and penetrates obscurants either day or night. The TWS systems use uncooled, forward-looking infrared technology. It provides a standard video output for training, image transfer or remote viewing. TWS are lightweight systems that Soldiers can mount on a standard weapon rail and operate beyond the maximum effective range of the weapon.

PM SMS is now fielding 17 micron (17um) sensor technology that provides size, weight and power improvements over previous configurations.

The TWS family comprises three variants, each of which is a silent, lightweight, compact, durable and battery-powered thermal sight. They are:

AN/PAS-13(V)1 Light Weapon Thermal Sight (LWTS) for the M16 / M4 series rifles and carbines, as well as the M136 Light Anti-Armor Weapon.

AN/PAS-13(V)2 Medium Weapon Thermal Sight (MWTS) for the M249 Squad Automatic Weapon (SAW) and M240B series Medium Machine Guns.

AN/PAS-13(V)3 Heavy Weapon Thermal Sight (HWTS) for the squad leader's weapon, M16 / M4 series rifles and carbines, M24 and M107 sniper rifles, and M2 HB and MK19 machine guns.

SPECIFICATIONS

Performance of fielded 25um systems.

Weight: HWTS: 3.9 pounds; MWTS: 2.9 pounds; LWTS: 1.9 pounds

Target recognition range: HWTS: 2,200 meters; MWTS: 1,100 meters; LWTS: 550 meters

Operational time: HWTS/MWTS: 6.5 hours (six lithium AAs); LWTS: 5 hours (four lithium AAs) at ambient

Magnification: HWTS: 10x/3.3x (narrow/wide); MWTS: 5x/1.66x (narrow/wide); LWTS: 3.1x/1.55x (narrow/wide)

Performance of latest 17um systems.

Weight: HWTS: 2.63 pounds; MWTS: 2.17 pounds; LWTS: 1.75 pounds

Target recognition range: HWTS: 2,200 meters; MWTS: 1,100 meters; LWTS: 550 meters

Operational time: HWTS/MWTS/LWTS: 20 hours (four lithium L91 AA). All variants with one battery change at ambient.

Magnification: HWTS: 7.98x/2.66x (narrow/wide); MWTS: 3.98x/1.33x (narrow/wide); LWTS: 2x/1x (narrow/wide)



PROGRAM STATUS

- ✓ **FY15:** Continue to field and support TWS in accordance with Headquarters, Department of the Army (HQDA) guidance

PROJECTED ACTIVITIES

- + **FY16:** Complete TWS fielding/Full Operational Capability



AN/PAS-13(V)1 LIGHT WEAPON
THERMAL SIGHT (LWTS)



AN/PAS-13(V)2 MEDIUM WEAPON
THERMAL SIGHT (MWTS)



AN/PAS-13(V)3 HEAVY WEAPON
THERMAL SIGHT (HWTS)



Enhanced Night Vision Goggle (ENVG), AN/PSQ-20



MISSION

Provides the Soldier with enhanced situational awareness day or night in all weather and degraded battlefield conditions.



CONTRACTORS

ITT Exelis (Roanoke, VA)

L-3 Insight Technology Inc. (Londonderry, NH)

Future (FY14+) Contract Awards are To Be Determined (TBD)

Enhanced Night Vision Goggle (ENVG), AN/PSQ-20

The **AN/PSQ-20 Enhanced Night Vision Goggle (ENVG)** provides increased capability by incorporating image intensification and long-wave infrared sensors into a single, helmet-mounted passive device. The ENVG combines the visual detail in low-light conditions that is provided by image intensification with the thermal sensor's ability to see through fog, dust, rain, sleet and other battlefield obscurants. This thermal capability, useful during the day as well as in no-light conditions, gives the ENVG a big advantage over night-vision devices equipped with I² only. The ENVG also allows Soldiers to rapidly detect and engage targets because it permits use of existing rifle-mounted aiming lights.



Several engineering enhancements to the ENVG improve its fit and function. For example, putting the battery pack on the rear of the helmet provides better balance and increases comfort as well as stability. The system also works with existing ballistic eye protection. In addition, the system is now more compact and easier to stow when not in use. This enhances a Soldier's mobility.

SPECIFICATIONS

Weight (total system): 2 pounds, including four AA batteries, helmet mount, and battery pack

Man-sized target (standing and moving) recognition:

≥ 80 percent probability at 150 meters

≥ 50 percent probability at 300 meters

Continuous operation: 7.5 hours with no battery change

PROGRAM STATUS

✓ **FY14:** Contract awarded for newest ENVG

PROJECTED ACTIVITIES

+ **FY15:** Production qualification of the latest ENVG system

+ **FY16:** Start fielding new ENVG III configuration



Monocular Night Vision Device (MNVD), AN/PVS-14



MISSION

Provides Soldiers with the capability to engage and execute close combat, combat support, and combat service support operations in very low-light (starlight) conditions.



CONTRACTORS

ITT Exelis (Roanoke, VA)

L-3 Warrior Systems Electron Tube
Operations (ETO) (Garland, TX; Tempe, AZ;
Londonderry, NH)

Monocular Night Vision Device (MNVD), AN/PVS-14

The **AN/PVS-14 Monocular Night Vision Device (MNVD)** is a head- or helmet-mounted passive device that amplifies ambient light and very near infrared energy to enable night operations. The system operates in conjunction with rifle-mounted aiming lights.

The AN/PVS-14 incorporates an infrared (IR) illuminator with a momentary and continuous-on switching function. IR operation and low-battery indicators display within the Soldier's field of view. The AN/PVS-14 has a lightweight, fully adjustable military head strap allows for comfortable long-term use. A wide range of optional accessories includes high-magnification lenses and a helmet-mounting bracket. The AN/PVS-14 can mount to the M16 Rifle/M4 Carbine receiver rail.

SPECIFICATIONS

Weight (total system) 1.2 pounds, including battery and helmet mount

Magnification: 1x

Range: 150 meters

Operational time: ≥ 20 hours

Power: One AA battery



PROGRAM STATUS

+ **FY14:** Full Operational Capability

PROJECTED ACTIVITIES

+ **FY15:** CECOM provides sustainment support for the AN/PVS-14



Aviator's Night Vision Imaging System (ANVIS), AN/AVS-6



MISSION

Enables Aviators to conduct flight operations under very low (starlight) ambient light conditions.



CONTRACTORS

ITT Exelis (Roanoke, VA)

L-3 Warrior Systems ETO (Tempe, AZ)

L-3 Warrior Systems Insight (Londonderry, NH)

Aviator's Night Vision Imaging System (ANVIS), AN/AVS-6

The **AN/AVS-6 Aviator's Night Vision Imaging System (ANVIS)** is a third-generation, helmet-mounted, direct-view, image-intensification device. It enables Aviators to operate more effectively and safely during low-light and degraded battlefield conditions.

The low-light sensitivity represents a 35 to 40 percent improvement over the earliest ANVIS. Additionally, the gated power supply enables operation at significantly higher light levels than any of the previous designs. The ANVIS is capable of operating for 22 hours on two (2) AA Alkaline batteries and 34 hours on two Lithium AA batteries. **The Low Profile Power Pack (LPPP)** encompasses a primary and alternate capability, which allows Aviators to access a safety backup (alternate) of two additional AA batteries.

SPECIFICATIONS

Weight (maximum): 1.3 pounds with batteries

Magnification: 1x

Operational time: 22 or 34 hours, depending on battery type

Power: Low-profile battery pack or from aircraft-supplied power



PROGRAM STATUS

✓ **FY14:** Competitive procurement award(s)

PROJECTED ACTIVITIES

+ **FY15–20:** Continue fielding, operations, and support



Clip-on Sniper Night Sight (CoSNS), AN/PVS-30



MISSION

Enables the Sniper to acquire and engage targets using the M110 Semi-Automatic Sniper System (SASS) and XM2010 Enhanced Sniper Rifle (ESR) during periods of limited visibility and at low-light levels.



CONTRACTORS

Knight's Armament Co. (Titusville, FL)

Clip-on Sniper Night Sight (CoSNS), AN/PVS-30

The **AN/PVS-30 Clip-on Sniper Night Sight (CoSNS)** is a lightweight, in-line weapon-mounted sight used in conjunction with the day optic sight on the M110 SASS and the M2010 ESR. It employs a variable gain image tube Snipers can adjust depending on ambient light levels. When used in conjunction with the M110 and M2010 day optical sight, it provides for personnel-sized target recognition at quarter moon illumination in clear air to a range of 600 meters. The CoSNS has an integrated rail adapter that interfaces directly to the MIL-STD-1913 rail for quick and easy mounting to or dismounting from the weapon.

The CoSNS allows a Sniper to maintain the current level of accuracy with the M110 and to deliver precise fire within 1 minute of angle. Use of the CoSNS does not affect the zero of the day optical sight and allows the M110 and the M2010 to maintain bore sight throughout the focus range of the CoSNS and the M110 and M2010 day optical sight.

SPECIFICATIONS

Weight: < 3.5 pounds

Man-sized target recognition: ≥ 600 meters

Focus range: 25 meters to infinity

Power: One AA Battery

Operational Time: 30 hours on one AA lithium battery.
(Battery life dependent on temperature)

PROGRAM STATUS

- ✓ **FY14:** Fielded to Snipers in accordance with Headquarters, Department of the Army guidance

PROJECTED ACTIVITIES

- + **1QFY15:** Continue to field in accordance with Headquarters, Department of the Army guidance



Multifunction Aiming Light (MFAL), AN/PEQ-15, AN/PEQ-15A



MISSION

Enables laser pointing and precision aiming in visible or infrared spectrums.



CONTRACTORS

L3/Insight Technology Inc. (Londonderry, NH)

Laser Devices Inc. (Monterey, CA)

The **Multifunction Aiming Light (MFAL)** family includes the AN/PEQ-15 Advanced Target Pointer Illuminator Aiming Light (ATPIAL) and the AN/PEQ-15A Dual Beam Aiming Laser–Advanced2 (DBAL-A2).

The AN/PEQ-15 and AN/PEQ-15A class 3B MFAL devices replace the AN/PAQ-4C. The infrared (IR) and visible aiming lasers are co-aligned. Soldiers can use the visible laser to bore-sight the device to a weapon without the need of night vision goggles. The IR lasers emit a highly collimated beam of IR light for precise weapon aiming, as well as a separate, IR-illuminating laser with adjustable focus. Soldiers can also select a visible red-dot aiming laser to provide precise aiming of a weapon during daylight or night operations. Soldiers can use AN/PEQ-15 and AN/PEQ-15A IR lasers as hand-held illuminator pointers, or weapon-mount them with included hardware.

SPECIFICATIONS

AN/PEQ-15

Weight: 7.5 ounces

Effective range:

IR lasers: 600 meters low power/2,000 meters high power

Visible laser: 25 meters in daylight, but not in direct sunlight

Operational time: 5 hours with laser(s) on Dual High

Power: One DL 123, 3-volt battery

AN/PEQ-15A

Weight: 8 ounces

Effective range:

IR lasers: 600 meters low power/2,000 meters high power

Visible laser: 25 meters in daylight, but not in direct sunlight

Operational time: 5 hours with laser(s) on Dual High

Power: One DL 123, 3-volt battery

PROGRAM STATUS

- ✓ **FY14:** TACOM provided sustainment support for the AN/PEQ-15 and AN/PEQ-15A

PROJECTED ACTIVITIES

- + **FY15-19:** TACOM provides sustainment support for the AN/PEQ-15 and AN/PEQ-15A



AN/PEQ-15 ATPIAL



AN/PEQ-15A DBAL-A2



Mini Integrated Pointed Illuminator Module (MIPIM), AN/PEQ-16B



MISSION

Enables laser pointing and precision aiming in visible or infrared spectrums. Emits a visible or infrared light for precise weapon boresighting and aiming, and incorporates a Light Emitting Diode (LED) bright white light for target/area illumination.



CONTRACTORS

L3/Insight Technology Inc. (Londonderry, NH)

Mini Integrated Pointed Illuminator Module (MIPIM), AN/PEQ-16B

The **MIPIM** is an integrated white light and laser device. The infrared (IR) and visible aiming lasers are co-aligned. Soldiers can use the visible laser to bore-sight the device to a weapon without the need of night vision goggles. The IR lasers emit a highly collimated beam of IR light for precise weapon aiming, as well as a separate, IR-illuminating laser with adjustable focus. Soldiers can also select a visible red-dot aiming laser to provide precise aiming of a weapon during daylight or night operations. Soldiers can use AN/PEQ-16B, IR lasers as hand-held illuminator pointers, or weapon-mount them with included hardware. The AN/PEQ-16B is available through CTA 50-909 as an approved replacement option for unserviceable AN/PEQ-2A, AN/PEQ-15, AN/PEQ-15A Aiming lights and stand-alone Weapon Mounted Lights (WML) for use on the M4 Series, M16 Series, and M249 Weapons.

SPECIFICATIONS

AN/PEQ-16B

Weight: 7.5 ounces

Effective range:

IR lasers: 600 meters low power/2,000 meters high power

Visible laser: 25 meters in daylight, but not in direct sunlight

White Light: Facial recognition at 25 meters

Operational time: 5 hours with laser(s) on Dual High

Power: Two DL 123, 3-volt batteries



PROGRAM STATUS

- ✓ **FY14:** TACOM provided sustainment support for the AN/PEQ-16B

PROJECTED ACTIVITIES

- + **FY15-20:** TACOM provides sustainment support for the AN/PEQ-16B



Integrated Laser White Light Pointer (ILWLP), AN/PEQ-14



MISSION

Enables Soldiers to acquire and engage targets in conditions of limited visibility using unaided vision or night vision goggles.



CONTRACTORS

Insight Technology Inc. (Londonderry, NH)

The **AN/PEQ-14 Integrated Laser White Light Pointer (ILWLP)** is a small, lightweight device Soldiers can handhold. They can also mount it on the M9 pistol with a Military Standard (MIL-STD)-1913 rail adapter. It combines the functions of a white light flashlight with adjustable focus, visible aiming laser, infrared (IR) aiming laser and IR illuminator into one system. The ILWLP engages targets with the M9 Pistol on the battlefield and in close-quarters combat engagements. Two DL 123 standard commercial batteries power it. ILWLP fielding is to military police units.

Weight: 6 ounces

Range:

IR aim/illumination: >100 meters

Visual aim: 25 meters during daylight but not direct sunlight

White light: 20 meters facial recognition

Operational time: Supports between 30 minutes and 5 hours of continuous operation, depending on functions operated

Power: Two DL 123, 3 volt batteries



PROGRAM STATUS

✓ **FY14:** TACOM provided sustainment support for the AN/PEQ-14

PROJECTED ACTIVITIES

+ **FY15-20:** TACOM provides sustainment support for the AN/PEQ-14



Weapons Mounted Light (WML) and Crew Served Weapons Light (CSWL)



MISSION

Provides the Soldier a small, lightweight, weapon-mounted or hand-held white light capability for use in a variety of combat situations.



CONTRACTORS

SureFire (Fountain Valley, CA)
SPA Defense/NovaTac (Fort Lauderdale, FL)
Streamlight (Eagleville, PA)
Peak Beam (Edgemont, PA)
Xenonics (Carlsbad, CA)

Weapons Mounted Light (WML) and Crew Served Weapons Light (CSWL)

The **Weapons Mounted Light (WML)** and the **Crew Served Weapons Light (CSWL)** are part of the Family of Flashlights (FoF).

The **WML** is a small white light that can be weapon-mounted or handheld. The WML operates on small arms weapons including the M16A4 modular weapons, M4/M4A1, and M249 Squad Automatic Weapon. The light is able to mount on the weapons' MIL-STD-1913 rail and does not interfere with day/night optics, aiming lights or other weapon accessories. When weapon-mounted, the WML will provide the Soldier the capability to illuminate a 20x30x8-foot darkened room or enclosure.

The **CSWL** system is compact and lightweight. It provides both overt (white light) and covert (infrared) illumination. Soldiers mount it to the M2 .50 Caliber Machine Gun, the MK19 Grenade Machine Gun, the M240B/L Medium Machine Gun or use it in the hand-held mode. The CSWL increases situational awareness by enabling the Soldier to observe deeper into the area of operation. It increases the probability to detect, identify, deter or assist in engagement of hostile forces, or identify friendly forces or non-combatants at greater ranges. It provides increased command and control at traffic control or checkpoints. The CSWL operates with an on/off switch on the device housing or with a wired remote cable switch. Each system is powered by internal rechargeable batteries, the BA-5590 Battery Adapter, or the standard NATO adaptor to allow military vehicle power to extend the operational run time of the unit.

SPECIFICATIONS

Weapons Mounted Light

Weight: > 10 ounces

Length: > 7 inches

Effective range:

Facial recognition: 20 meters

Operational time: 7 hours

Power: One or Two DL 123, 3-volt batteries

Crew Served Weapons Light

Weight: 3 lbs

Length: 13 inches

Beam: Adjustable .30 (spot) to 100 (flood)

Effective range:

White Light: 1,200 meters

Infrared: 800 meters

Operational time:

Internal Battery: 2 hours

External 24V NATO Adaptor: Indefinite

Power: Non-standard Lithium-Ion 11.1VCD/5.2A Battery



XENONICS NIGH Hunter3-400 CSWL

PROGRAM STATUS

- ✓ **FY14:** TACOM provides sustainment support for the WML and CSWL

PROJECTED ACTIVITIES

- + **FY15:** TACOM will support through normal supply procedures for the Common Table of Allowances (CTA).



SUREFIRE M952V



Aircrew Laser Pointer (ALP), LA-8/P



MISSION

Provides the Aviator a small, finger-mounted infrared laser for identification, signaling and fire direction during night operations.



CONTRACTORS

DRS (Melbourne, FL)

Aircrew Laser Pointer (ALP), LA-8/P

The **Aircrew Laser Pointer (ALP)** is a finger-mounted laser. It enables the Aviator to direct fire, identify friend and foe, and signal adjacent formations during night operations. It mounts on a fire-resistant fabric designed to attach to the Aircrew member's glove. Because it is hand worn, it does not interfere with aircraft operation. The master arming switch allows a high-power (Class IIIb) or low-power (Class I) infrared laser operation. A momentary fire button allows easy activation with the thumb. An LED indicator is lit when a Soldier activates the momentary fire button.

SPECIFICATIONS

Weight: under 5 ounces

Maximum range: 3 kilometers

Power: Two 1.5 V AA lithium batteries



PROGRAM STATUS

- ✓ **FY14:** Fielded in accordance with Capability Production Document and Headquarters, Department of the Army guidance

PROJECTED ACTIVITIES

- + **FY15:** Field in accordance with Capability Production Document and Headquarters, Department of the Army guidance



Green Laser Interdiction System (GLIS), LA-12/P, LA-13/P



MISSION

Provides the Soldier a non-lethal means to hail or warn potential hostile forces and/or civilians that they are approaching military operations.



CONTRACTORS

L3/Insight Technology Inc. (Londonderry, NH)
B.E. Meyers (Redmond, WA)

The **Green Laser Interdiction System (GLIS)** is a rifle-mounted laser that allows the Soldier to interdict hostile actions through non-lethal effects. It can divert, disrupt or delay potential threats before they can engage friendly forces. It is also an effective, non-lethal means to warn civilians they are approaching a zone of military operations.

SPECIFICATIONS

Weight: <14 ounces

Range: 300–1000m

Operational time: 2–6 hours

Power: CR 123 batteries

PROGRAM STATUS

✓ **FY14:** Fielding completed

PROJECTED ACTIVITIES

+ **FY15:** TACOM to provide sustainment support for the LA-12/P and LA-13/P



Family of Weapon Sights (FWS)



MISSION

To enable Soldiers to acquire and engage targets with small arms, conduct surveillance and fire control under day/night obscurants, no-light and adverse weather conditions, while maintaining boresight of an in-line day optic.



CONTRACTORS

Future Contract Awards are To Be Determined (TBD)

Family of Weapon Sights (FWS)

The **Family of Weapon Sights (FWS)** program will provide Soldiers with thermal enablers/sights for the individual, crew served and sniper weapons. They give Soldiers the capability to see deep into the battlefield, increase surveillance and target acquisition range, and penetrate day or night obscurants. The FWS systems will use uncooled, forward-looking infrared technology. These systems will also have additional features to provide improved offensive firing capabilities, decreased transition time between mobility and targeting sensors, and improved firing accuracy. The FWS will have three variants, each of which will be silent, lightweight, compact, durable and battery powered: FWS Individual (FWS-I), FWS Crew Served (FWS-CS) and FWS Sniper (FWS-S). The FWS-I will greatly reduce target engagement time with a feature called Rapid Target Acquisition (RTA). It is the wireless weapon sight imagery and reticle transmission from FWS-I to the AN/PSQ-20 Enhanced Night Vision Goggle (ENVG) III so that the Soldier can engage targets rapidly without having to transition between devices. All variants will clip-on (integration) in-line with Day View Optics to achieve their capability and will include different combinations of technologies such as state of the art sensors, microdisplays, integrated Laser Range Finder (LRF) or interoperability with an LRF, and disturbed reticle (auto-adjusted reticle based on range).

SPECIFICATIONS

Weight: FWS-I < 2.0 pounds, FWS-CS < 3.25 pounds, FWS-S < 2.0 pounds

Range: FWS-I: 960 meters, FWS-CS: 2,400 meters, FWS-S: 1,800 meters

Field of View: FWS-I: 18°, FWS-CS: 9°, FWS-S: 4°

Operation Time: 7 hours with one battery change

Power: AA Batteries (number of batteries TBD)

PROGRAM STATUS

- ✓ **FY14:** FWS-I achieved Milestone B
- ✓ **FY14:** Awarded Engineering and Manufacturing Development (EMD) contract

PROJECTED ACTIVITIES

- + **FY15:** Continue FWS-CS and FWS-S technology development



FWS INDIVIDUAL



FWS CREW-SERVED

*HMD is a component of FWS-CS



Soldier Sensors and Lasers Future Initiatives

FURTHER INTO THE FUTURE

Project Manager Soldier Sensors and Lasers (PM SSL) maintains strong and productive relationships with the Army Centers of Excellence (Maneuver, Fires and Aviation) to identify requirements that will address existing and future capability gaps and with Department of Defense (DoD) research organizations to create materiel solutions. Of particular note, PM SSL is working to develop wireless technology that will interconnect an individual Soldier's many devices so that he or she can get the information needed within the device the Soldier is already using rather than transitioning from device to device. In order to further improve helmet mounted enhanced vision, PM SMS is actively involved with the Defense Applied Research Project Agency (DARPA) Pixel Network for Dynamic Visualization (PIXNET) program with the goal of developing helmet-mounted systems that are fully digital, smaller, more balanced and better integrated with Soldier Protective Eyewear. Future weapon aiming lights and pointers will provide more covertness and new sensor packages will equip the Soldier and Squad with dismounted capabilities to detect threats beyond line of sight (over hills and walls and within depressions, tunnels and buildings).

Soldier Maneuver Sensors Future Initiatives





“We were set up overwatching another of our platoons. I was spotting for one of our snipers and we saw some guys coming over the ridge getting ready to attack the platoon that was down in the village. Our forward observer came over and lased it with his Mark VII so we could get an accurate range on it so the snipers could engage those targets before they could attack the platoon that was in the village.”

– **SPC Kenneth Monniere**

PRODUCT MANAGER SOLDIER PRECISION TARGETING DEVICES (PM SPTD)



PM Soldier Sensors and Lasers (PM SSL) maintains strong and productive relationships with the Army Centers of Excellence (Maneuver, Fires and Aviation) to identify requirements that will address existing and future capability gaps and with Department of Defense (DoD) research organizations to create materiel solutions. Product Manager Soldier Precision Targeting Devices (PM SPTD) is the product office within PM SSL that develops, produces, fields and sustains Soldier-portable precision targeting systems (target locators and laser designators). They support the Joint Force Scout, Forward Observer and Joint Terminal Attack Controller (JTAC) for use across the full spectrum of operations.



The **AN/PED-1 Lightweight Laser Designator Rangefinder (LLDR)** enables Fire Support Teams, Combat Observation and Lasing Teams, and dismounted Scouts to locate targets accurately. They can digitally transmit target location data to the tactical network and laser-designate high-priority targets for engagement with precision munitions. Beginning in FY11, a high accuracy version of LLDR (LLDR 2H) began production and will begin fielding in 2QFY14. It will add the capability to support GPS-guided munitions such as Excalibur, Guided Multiple Launch Rocket System (GMLRS) and Joint Direct Attack Munitions (JDAM).



The **Laser Target Locators Mark VII** and **Vector 21**, as well as the **Mark VIII** and **TRIGR**, provide dismounted Scouts, platoon leaders, fire support teams and forward observers with daylight and limited night capability. This allows them to observe and locate targets accurately, and transmit target data to the fire-support and maneuver command, control, communications, computers and intelligence system (C4I).

Laser Target Locator (LTL)



MISSION

Provides Dismounted Forward Observers, Scouts, Snipers and Platoon Leaders all-weather capability to locate targets accurately and transmit target data.

CONTRACTORS

Vector 21

Ashbury International Group Inc. (Sterling, VA)

TRIGR

BAE Systems (Nashua, NH)

Mark VII/Mark VIII

Northrop Grumman Laser Systems (Apopka, FL)



Laser Target Locator (LTL)

The **Laser Target Locators (LTL)** are handheld or tripod-mounted, lightweight laser target locators. They deliver target data to the fire support, and maneuver Command, Control, Communications, Computer and Intelligence system (C4I).

The **Vector 21** is a Binocular Laser Rangefinder (BLRF) with an embedded digital compass. Soldiers can connect the Vector 21 to the Precision Lightweight GPS Receiver (PLGR) or a Defense Advanced GPS Receiver (DAGR) to provide target grid coordinates. When used in conjunction with an AN/PVS-14 Monocular Night Vision Device, the Vector 21 provides a limited night capability.

The **Mark VII** integrates a monocular direct-view optic, an image intensifier, a laser rangefinder and a digital compass into a day/night target location device. The Mark VII connects to the PLGR or the DAGR to provide grid coordinates to distant targets. The Mark VII provides a limited night capability.

The **Mark VIIE** is an integrated target locator module with a more powerful 8x day optic. It has an uncooled thermal sight for increased night performance and an embedded GPS receiver for stand-alone targeting operations.

The **Target Reconnaissance Infrared Geolocating Rangefinder (TRIGR)** is an integrated target locator module with a 7x direct view optic, an improved uncooled thermal sight for significantly increased night performance, a laser rangefinder, digital compass and embedded GPS receiver for stand-alone targeting operations.

SPECIFICATIONS

Weight (handheld):

Vector 21: 3.8 pounds (not including the cable and PLGR or DAGR)

Mark VII: 4.2 pounds

Mark VII E: 5.5 pounds

TRIGR: 5.5 pounds



Weight (total system):

Vector 21: (daylight), 5.9 pounds; (night), 9.2 pounds (including cables and batteries for day and night and Night Vision Goggles and adapter for night operations)

Mark VII: 6 pounds (Including cables and batteries)

Mark VII E: 5.5 pounds

TRIGR: 5.5 pounds

Target Recognition Ranges:

Vector 21 and Mark VII: >4.2 kilometers day, > .5 kilometers night (to a NATO standard vehicle target)

Mark VIIE and TRIGR: >4.2 kilometers day, >1.2 kilometers night (to a NATO standard vehicle target)

Target Location Error: <45 meters at 5 kilometers in a magnetically benign environment

PROGRAM STATUS

- ✓ **FY14:** Fielded in accordance with Capability Production Document (CPD) and Headquarters, Department of the Army (HQDA) guidance

PROJECTED ACTIVITIES

- + **FY15:** Continue to field TRIGR
- + **FY15-16:** Award a new, competitive five-year Indefinite Delivery, Indefinite Quantity (IDIQ) contract for the next generation of lightweight LTLs with emphasis on reducing the size and weight



VECTOR 21



MARK VII



MARK VIIE



TRIGR



Lightweight Laser Designator Rangefinder (LLDR), AN/PED-1, 1A & 1B



MISSION

Provide the dismounted Fire Support Teams, Combat Observation and Lasing Teams, and Scouts with a precision target location and laser designation system that allows them to call for fire using precision, near-precision and area munitions.



LLDR 2H THERMAL IMAGE



CONTRACTORS

Northrop Grumman Guidance and Electronics, Laser Systems (Apopka, FL)

Lightweight Laser Designator Rangefinder (LLDR), AN/PED-1, 1A & 1B

The **Lightweight Laser Designator Rangefinder (LLDR)** is a crew-served, Soldier-portable, long-range, modular target locator and laser designation system. The primary components are the Target Locator Module (TLM) and the Laser Designator Module (LDM). The AN/PED-1A (LLDR-2) reduced system weight by more than five pounds and reduced power consumption. The AN/PED-1B (LLDR 2H) improves target location performance.

The TLM incorporates a thermal imager, day camera, laser designator spot imaging, electronic display, eye-safe laser rangefinder, digital magnetic compass, Selective Availability/Anti-Spoofing Module Global Positioning System (SAASM GPS) and digital export capability. The original LLDR 1 (AN/PED-1) operates on one BA-5699 battery, but it can also use a Single Channel Ground and Airborne Radio System (SINGARS) battery when laser designation is not required. A new compact laser designator is being fielded with the LLDR 2 (AN/PED-1A). It requires less power and operates on one common SINGARS battery (BA-5390 or BA-5590). To provide a precision targeting capability to the dismounted Soldier, PM SPTD developed the LLDR 2H (AN/PED-1B). It integrates a celestial navigation system with the digital magnetic compass in the TLM. The LLDR 2H provides highly accurate target coordinates to allow the Soldier to call for fire with precision GPS guided munitions. A Modification of in Service Equipment program will retrofit fielded LLDR 1 and 2 systems with the LLDR 2H precision targeting capability beginning in FY13.

The TLM operates as a stand-alone device or in conjunction with the LDM. At night and in obscured battlefield conditions, the operator can recognize vehicle-sized targets at more than three kilometers. During day operations, targets Soldiers can recognize targets at more than seven kilometers. The LDM emits coded laser pulses compatible with DoD and NATO laser-guided munitions. Soldiers can designate stationary targets at ranges greater than five kilometers.



SPECIFICATIONS

Weight (total system including batteries for a 24-hour mission):

LLDR 1: 35 pounds

LLDR 2: 29.5 pounds

LLDR 2H: 31.5 pounds

Target Recognition Range:

LLDR 1: > 6.5 kilometers day, > 2.5 kilometers night (to a NATO standard vehicle target)

LLDR 2 & LLDR 2H: > 7 kilometers day, > 3 kilometers night (to a NATO standard vehicle target)

Target Location Error:

LLDR 1 & LLDR 2: > 20 meters at 2.5 kilometers range (In a magnetically benign environment)

LLDR 2H: < 10 meters at 2.5 kilometers range (when celestial is available)

Laser Designation:

All LLDR: > 5 kilometers to stationary target, > 3 kilometers to a moving target.

PROGRAM STATUS

+ **FY14:** LLDR 2H First Unit Equipped and Initial Operating Capability

PROJECTED ACTIVITIES

+ **FY15:** LLDR to LLDR 2H retrofit exchange with Brigade Combat Teams (BCTs)



LIGHTWEIGHT LASER DESIGNATOR
RANGEFINDER 1 AN/PED-1



LIGHTWEIGHT LASER DESIGNATOR
RANGEFINDER 2 AN/PED-1A



LIGHTWEIGHT LASER DESIGNATOR
RANGEFINDER 2H AN/PED-1B



Small Tactical Optical Rifle Mounted (STORM) Micro-Laser Rangefinder (MLRF), AN/PSQ-23



MISSION

Provides a weapon-mounted target ranging and locating capability to Snipers, and Squad-level Infantry leaders, utilizing a laser rangefinder and digital magnetic compass.



CONTRACTORS

Insight Technology Inc. (Londonderry, NH)

Small Tactical Optical Rifle Mounted (STORM) Micro-Laser Rangefinder (MLRF), AN/PSQ-23

The **AN/PSQ-23 Small Tactical Optical Rifle Mounted (STORM) Micro-Laser Rangefinder (MLRF)** is a lightweight, multifunctional laser system designed to operate on individual and crew served weapons and the Stryker Remote Weapons Station. It combines the functionality of a laser rangefinder, the AN/PEQ-15/15A Infrared Aiming Laser and Illuminator, the Multiple Integrated Laser Engagement System (MILES), a digital compass, and a visible pointer into a single system. Combined with a Precision Lightweight GPS Receiver (PLGR) or a Defense Advanced GPS Receiver (DAGR), the system can compute and display highly accurate target locations.



SPECIFICATIONS

Weight: 1.4 pounds

Target Location Error: 65 meters at 1.5 kilometers when connected to DAGR

PROGRAM STATUS

- ✓ **FY14:** Continue to field in accordance with Basis of Issue Plan (BOIP) and Headquarters, Department of the Army guidance

PROJECTED ACTIVITIES

- + **FY15-16:** Complete design and build of STORM Engineering Change Proposal (ECP) systems to significantly reduce size and weight, while maintaining performance.



Joint Effects Targeting System (JETS)



MISSION

Provides the dismounted Forward Observer (FO) and Joint Terminal Attack Controller (JTAC) the ability to acquire, locate, mark, and designate for precision GPS guided and laser-guided munitions. It provides connectivity to the Joint forces through fires and close air support digital planning/messaging devices.



CONTRACTORS

BAE Systems, Information and Electronics
Systems Integration, Inc. (Nashua, NH)
DRS-RSTA, Inc. (Dallas, TX)

Joint Effects Targeting System (JETS)

The Joint Effects Targeting System (JETS) is an Army-led, Joint-interest program with the Air Force and Marine Corps to develop, procure, and field a one-person portable targeting system for FOs and JTACs.

This future system will address the capability gap for a lightweight, hand-held, highly accurate targeting system. It will allow target engagements with precision munitions and provide crucial digital connectivity to request and control indirect fires, and close air support from all Joint assets. The portability of JETS will allow small units supported by Army FOs or JTACs to have access to precision targeting in all operational environments.

The JETS system will include a hand-held Target Location Module (HTLM), a Precision Azimuth and Vertical Angle Module (PAVAM), and a Laser Marker Module (LMM). The HTLM will have day and thermal night vision sights, laser spot imaging, an electronic display, celestial navigation sensors, an eye-safe laser rangefinder, a digital magnetic compass, Selective Availability/Anti-Spoofing Module Global Positioning System (SAASM GPS), digital video output, and digital communications in a module weighing less than 5.5 pounds. The PAVAM will be a compact, lightweight inertial measurement sensor which provides a 24/7 precision azimuth to the HTLM. The LMM will allow the operator to laser mark targets with a coded laser spot to identify and handoff targets to air support assets, and will provide a laser designation capability to target for laser guided munitions. JETS will digitally interface with existing service-specific Forward Entry Systems (FES) and will interface with future FESs using a common interface being developed through a Joint services working group. When connected to a FES, the JETS will digitally transmit target information to higher echelons for calls for fire and close air support.

SPECIFICATIONS

Hand-held Weight: < 5.5 pounds

Total System Weight: < 17 pounds (for a 72 hour mission)

Target Identification Range: > 2.5 kilometers day, > 1.0 kilometers night (to a NATO standard vehicle target)

Target Location Error: <10 meters at 2.5 kilometers range

Laser Marking: > 5 kilometers

Laser Designation: > 3 kilometers

PROGRAM STATUS

- ✓ **FY14:** Developing Engineering and Manufacturing Development (EMD) system for qualification

PROJECTED ACTIVITIES

- + **2QFY15:** Milestone C decision
- + **4QFY16:** Initial Operational Capability for JETS TLDS



Project Manager Soldier Warrior (PM SWAR)

Product Manager Air Warrior

Product Manager Ground Soldier

Product Director Soldier Systems Integration





PM SWAR supports Soldiers through the acquisition of integrated Soldier systems. PM SWAR product managers develop and integrate components into complete systems designed to increase Soldiers' situational awareness and combat effectiveness, decrease combat load, and improve mission flexibility.

“It doesn’t hinder my freedom of movement. It gives me options to move things around so I can make the vest personalized to my body. I’ve been in aviation since 1990, and this is the first time I put something on and it didn’t bother me in any way.”

– **CW2 John W. Cover, on the GEN III Air Warrior System**



PRODUCT MANAGER AIR WARRIOR (PM AW)



PM AW integrates aviation life support and mission equipment into an ensemble that improves the combat effectiveness of the Army aircrew member. The Air Warrior is a modular system that increases mission endurance, enhances mobility, reduces physiological stress, facilitates rapid aircraft entry and exit, and provides survival gear in the event that an aircraft goes down over land or water.



The **Electronic Data Manager (EDM)** is a touch-screen computer system in a kneeboard configuration that puts advanced digital tools directly into the hands of Army aviators. It provides GPS moving map navigation, over-the-horizon messaging, increased situational awareness with Blue Force Tracking, mission planning, and aircraft performance planning information.



The **Portable Helicopter Oxygen Delivery System (PHODS)** is a lightweight, wearable device that provides oxygen to Soldiers without restricting their movements in and around their aircraft. It replaces the Helicopter Oxygen System, which weighed more than 100 pounds and could not be fitted on all Army rotary wing aircraft.

Air Warrior (AW)



MISSION

To integrate aircrews into aircraft, increasing their ability to fight, win, and return home safely.

CONTRACTORS

Telephonics Corp. (Farmingdale, NY)
General Dynamics C4 Systems, Inc. (Scottsdale, AZ)
BAE Systems (Phoenix, AZ)
Aerial Machine and Tool Corp. (Vesta, VA)
Westwind Technologies Inc. (Huntsville, AL)
Carleton Technologies Inc. (Orchard Park, NY)
Raytheon Technical Services (Indianapolis, IN)
Secure Communication Systems Inc. (Santa Ana, CA)
US Divers (Vista, CA)

CEP Inc. (Enterprise, AL)
Science and Engineering Services, Inc. (SESI) (Huntsville, AL)
Gibson and Barnes (Santa Clara, CA)
Oxygen Generating Systems International (Buffalo, NY)
Gentex Corp. (Rancho Cucamonga, CA)
Mountain High Equipment and Supply Co. (Redmond, OR)
Taylor-Wharton (Huntsville, AL)



Air Warrior (AW) is a modular, integrated, rapidly reconfigurable combat aircrew protective ensemble. It saves lives and maximizes the mission performance of the aviation Soldier. Previous aviation life support equipment consisted of a non-integrated assemblage of protective and survival gear. AW uses a systems approach to equipping the aircrew and closes the capability gap between human and machine. Fielded incrementally to provide rapidly enhanced capabilities to the Soldier, AW leverages and integrates clothing and equipment, including the Army Aircrew Combat Uniform and ballistic protection from other product managers.

Air Warrior provides:

- **Survival Equipment Subsystem (SES)** integrates first aid, survival, signaling, and communications equipment with body armor and over-water survival subsystems
- **Microclimate Cooling System (MCS)** increases effective mission duration in heat-stress environments by more than 350 percent
- **Aircrew Integrated Helmet System (AIHS)**, a flight helmet with increased head and hearing protection
- **Electronic Data Manager (EDM)**, a portable digital-mission planning device for over-the-horizon messaging and enhanced situational awareness capabilities through connectivity to Blue Force Tracking, Aviation for non-digitized Army aircraft
- **Encrypted Aircraft Wireless Intercom System (EAWIS)** for secure, cordless, hands-free internal aircrew communications in UH-60 and CH-47 aircraft
- **Survival Kit, Ready Access, Modular (SKRAM)**, a modular "Go-Bag" system that provides carriage of survival gear
- **Portable Helicopter Oxygen Delivery System (PHODS)**, a Soldier-worn supplemental breathing oxygen system for high-altitude operations
- **Communication Enhancement and Protection System (CEPS)** provides a helmet hear-through capability



PROGRAM STATUS

- ✓ **FY13:** Fielded and reset AW to units prior to deployment

PROJECTED ACTIVITIES

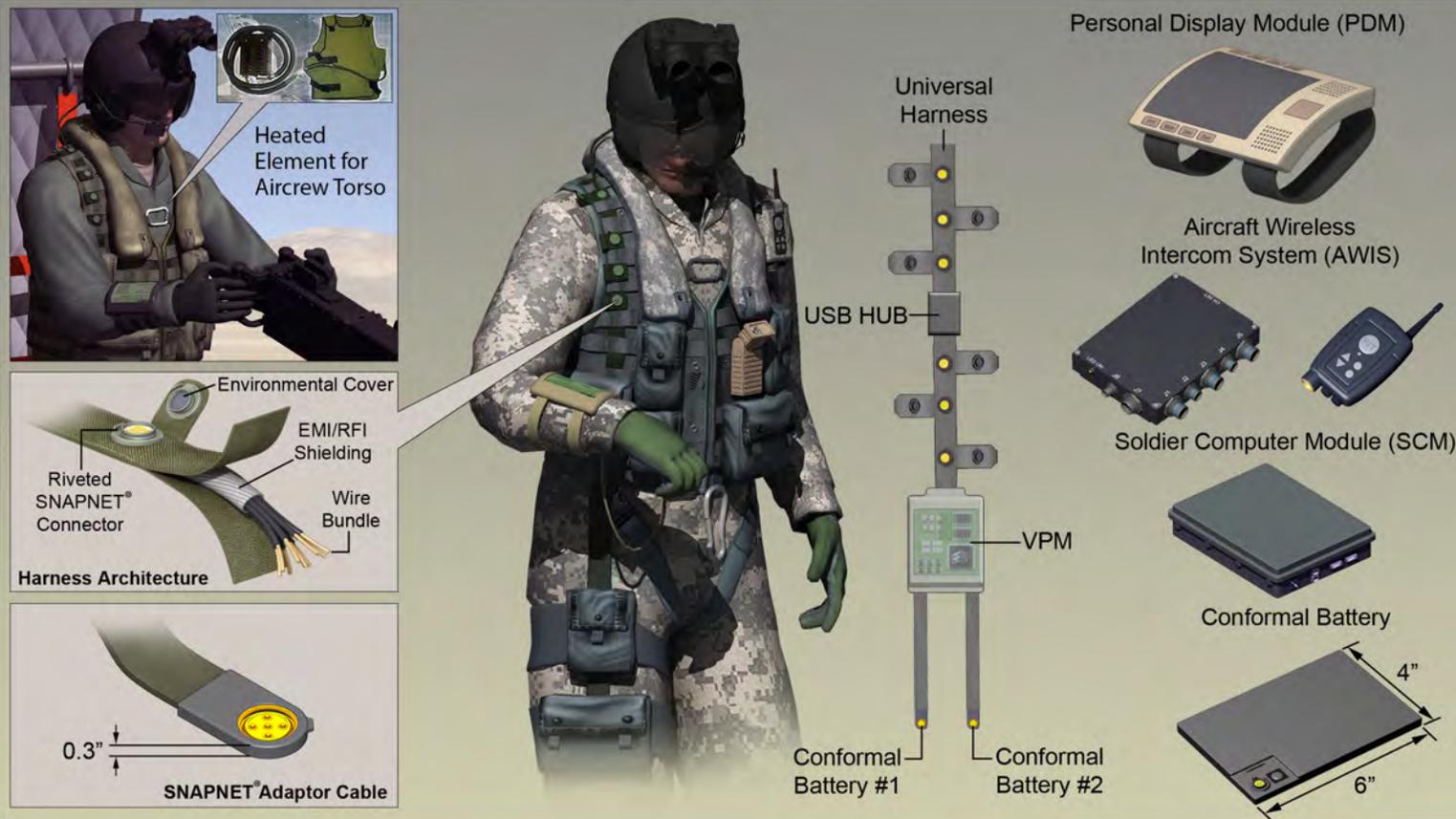
- + **FY14:** Complete fielding and RESET of AW to units prior to deployment, continue transition of AW to sustainment



PRIMARY SURVIVAL GEAR CARRIER (PSGC)



Air Soldier System (AirSS)



MISSION

Reduce the bulk and weight of Army aircrew mission equipment, and improve their situational awareness and safety in Degraded Visual Environments.

CONTRACTORS

Raytheon Technical Services Corp.
 (Indianapolis, IN)
 ARINC (Annapolis, MD)
 Elbit Systems (Ft. Worth, TX)
 Gibson-Barnes (El Cajon, CA)

Switlik Parachute Company (Trenton, NJ)
 Rini Technologies (Oviedo, FL)



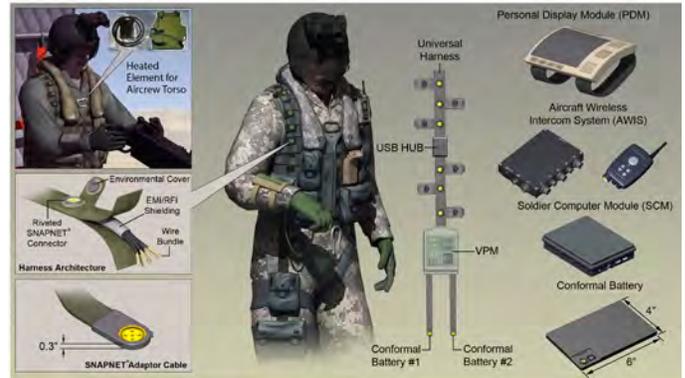
Air Soldier System (AirSS)

Building on the legacy Air Warrior (AW) gear carriage and clothing system, the Air Soldier System (AirSS) improves aviator cockpit compatibility, situational awareness in degraded visual environments, and aircrew mission effectiveness.

AirSS reduces the bulk and weight borne by the aviation Soldier by combining or eliminating clothing and individual equipment components and layers without compromising protection. AirSS provides lighter weight body armor and environmental protective garments with fewer layers, including active thermal regulation. A new day/night flight helmet-mounted display with enhanced 3D flight symbology and head tracking will increase the aviator's situational awareness to help prevent aircraft mishaps in Degraded Visual Environments (DVE) such as darkness, fog, blowing sand, dust or snow.

AirSS capabilities include:

- Aircraft integration -- design, integrate, qualify aircraft space and power components.
- Common Helmet Mounted Display (CHMD) -- a day/night, wide field of view color digital display for UH-60 and CH-47 Aviators.
- Integrated Line-of-Sight Head Tracking -- enhances Aviator situational awareness and enables 3D DVE symbology.
- 3D DVE symbology -- improve Aviator situational awareness and reduces aircraft mishaps.
- Integrated Mission Display Module/Soldier Computer Module (MDM/SCM) -- UH-60L cockpit display replaces current AW Electronic Data Manager (EDM).
- Layered Clothing Ensemble -- integrates with current AW gear carrier, and reduces bulk and weight.
- Improved Cooling Vest -- reduces bulk/weight of current cooling vest (approximately 40 percent reduction).
- Lightweight Joint Protective Air Crew Ensemble (L-JPACE) -- reduces chemical / biological protective garment bulk.
- Lightweight Immersion Suit for Aviation (LISA) -- improves cold water immersion protection and reduces bulk.



- Soft Armor Ballistic Insert -- reduces bulk to equal Improved Outer Tactical Vest (IOTV) armor.
- Optimized 72-hour survival items -- smaller, lighter, standardized, integrated aircrew survival equipment

Future Pre-Planned Product Improvement (P3I) effort provides:

- Aircrew Combat Ensemble (ACE) replaces the legacy AW Personal Survival Gear Carrier. This will reduce weight and bulk, integrate the Soldier Protection System (SPS) modular ballistic protection system, and enhance compatibility and stowage/interface provisions for current and future clothing and individual equipment. The objective is to reduce the bulk and weight by 35 percent as compared to the equivalent components and capabilities of the legacy AW ensemble.
- Electronic Flight Bag (EFB) replaces paper DoD Flight Information Publications for aircrews.

PROGRAM STATUS

- ✓ **1QFY12:** Program entered the Engineering and Manufacturing Development (EMD) phase at Milestone B.

PROJECTED ACTIVITIES

- + **4QFY15:** AirSS enters the Production and Deployment Phase at Milestone C / Low Rate Initial Production (LRIP)
- + **1QFY16:** Operational Test and Evaluation (OT&E)
- + **2QFY16:** Full Rate Production (FRP) decision



Encrypted Aircraft Wireless Intercom System (EAWIS)



MISSION

Enhances Aircrew safety by providing secure wireless communication between crew members in and around the aircraft during missions



CONTRACTORS

Telephonics Corp. (Farmingdale, NY)

General Dynamics C4S (Scottsdale, AZ)

Encrypted Aircraft Wireless Intercom System (EAWIS)

The **Encrypted Aircraft Wireless Intercom System (EAWIS)** is a Joint effort with the U.S. Navy that provides increased safety and mission performance for Aircrews operating in and around aircraft. The EAWIS eliminates the mobility restrictions and safety hazards inherent to tethered intercoms. The hands-free mode increases safety in high-risk search-and-rescue, nighttime, and rescue hoist operations. The system also improves communications and safety during operations such as refueling, loading, offloading and re-arming.

EAWIS supplements the current aircraft corded intercom system for both flight and ground operations for the Army's CH-47 and HH/UH-60 aircraft, and the Navy's CH-46, SH-60, and CH/HH-53 aircraft. The system consists of one aircraft-mounted interface unit and a mobile transceiver worn by the crew member.

The system has a full duplex voice-activated mode, hands-free mode, and a push-to-talk mode. It features National Security Agency (NSA) Type 1 encryption, 50 independent channels (aircraft networks) with up to six crew members on each aircraft network able to hear and talk simultaneously. EAWIS enables simultaneous omnidirectional communications among all users in the aircraft network within 200 feet of the center of the aircraft.

PROGRAM STATUS

- + **1QFY13:** Full-rate production contract
- ✓ **3QFY13:** Begin fielding UH-60 and CH-47

PROJECTED ACTIVITIES

- + **FY15:** Continue fielding EAWIS



AIRCRAFT ACCESS POINT



AIRCREW MOBILE EQUIPMENT

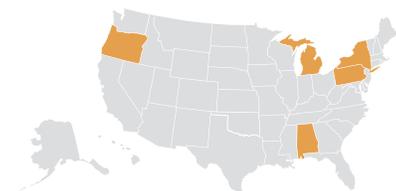


Aircrew Integrated Helmet System (AIHS), HGU-56/P



MISSION

Increases mission effectiveness for Aircrew members with a lightweight helmet that offers improved comfort, impact protection, retention and sound attenuation.



CONTRACTORS

- Gentex (Simpson, PA)
- Telex Communications Co. (Buchanan, MI)
- Astrocom Electronics Inc. (Colliersville, NY)
- Communications & Ear Protection Inc. (Enterprise, AL)
- Oregon Aero (Scappoose, OR)

Aircrew Integrated Helmet System (AIHS), HGU-56/P

The **HGU-56/P Aircrew Integrated Helmet System (AIHS)** is made of an advanced composite of graphite and Spectra (a high-performance polyethylene). It is available in six sizes to fit male and female crew members. The AIHS HGU-56/P is 15 to 20 percent lighter than the SPH-4 flight helmet it replaced. It includes:

- Laser eye protection visors
- Communication Ear Plugs, fielded in 2002, which provide increased speech intelligibility and increased sound attenuation
- Maxillofacial Shield, fielded in 2003, which provides fragmentation protection to the face

PROGRAM STATUS

- ✓ **FY13:** Operations and support (sustainment) phase of life cycle

PROJECTED ACTIVITIES

- + **FY14:** Continue operations and support



AIRCREW INTEGRATED HELMET SYSTEM



Communication Ear Plugs (CEP), and Communications Enhancement and Protection System (CEPS)



MISSION

Provides improved sound attenuation, speech intelligibility and external audio (“helmet hear through”) for Aircrew.



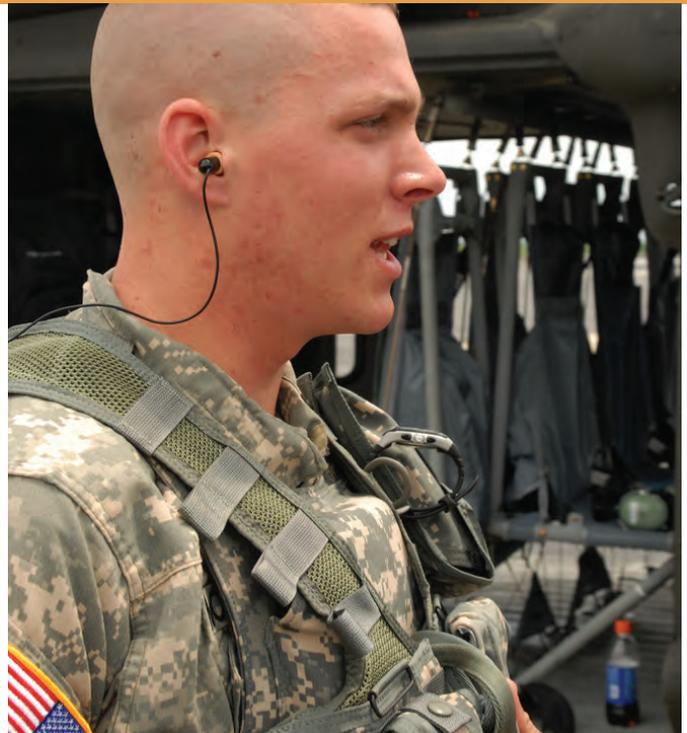
CONTRACTORS

Communications & Ear Protection Inc.
(Enterprise, AL)

Communication Ear Plugs (CEP), and Communications Enhancement and Protection System (CEPS)

Communication Ear Plugs (CEP) are a pair of small sound transducers paired with hollow foam ear tips. The foam ear tips increase the sound attenuation already provided by the ear cups on the HGU-56/P Aircrew Integrated Helmet System (AIHS). The sound transducers provide a clear signal through the hollow foam ear tips. As a result, the Aircrew member hears clear communications not degraded by ambient noise. CEP now integrated into new helmets during production.

The **Communications Enhancement and Protection System (CEPS)** is a commercial off-the-shelf enhancement to the CEP. They allow disembarked Aircrew to hear and localize sounds while off the aircraft with ground personnel not connected to the aircraft's intercom and during escape-and-evade actions while wearing the HGU-56/P AIHS. Dual communication earplugs connect to a pair of tiny microphones that are mounted on the helmet's ear domes. A toggle switch changes the audio input from the aircraft communications to the ear dome microphones. A gain switch allows the Soldier to adjust audible communication levels.



PROGRAM STATUS

- ✓ **FY13:** Continue fielding CEPS and operations and support for CEP

PROJECTED ACTIVITIES

- + **FY14:** Complete fielding of CEPS
- + **FY15:** Transition CEPS to the operations and support phase



CEPS INTEGRATED
WITH THE AIHS



Apache Aircrew Integrated Helmet (AAIH)



MISSION

Provide the safety and protection performance of the Aircrew Integrated Helmet System (AIHS) to the AH-64E Apache community.

CONTRACTORS

Elbit Systems of America (ESA) (Fort Worth, TX)

Elbit Systems Limited (Haifa, Israel)

Gentex (Simpson, PA)

Astrocom Electronics Inc. (Colliersville, NY)

Communications & Ear Protection Inc. (Enterprise, AL)



By using the **Apache Aircrew Integrated Helmet (AAIH)** as the helmet platform for the **AH-64E Apache Improved Magnetic Receiver Unit (IMRU)** helmet tracker, the Army brought a safer, common helmet to the Apache community.

PROGRAM STATUS

- ✓ **FY13:** Provide technical and logistic support to PM Apache

PROJECTED ACTIVITIES

- + **FY14:** Continue technical and logistic support to PM Apache



TOP SECTION OF THE AAIH

Electronic Data Manager (EDM)



MISSION

Enables Aircrew members Blue Force Tracking-Aviation situational awareness, plan missions and react to mission changes in flight.



CONTRACTORS

Raytheon Technical Services (Indianapolis, IN)

Secure Communication Systems Inc. (Santa Ana, CA)

Electronic Data Manager (EDM)

The **Electronic Data Manager (EDM)** is a lightweight and portable touch-screen computer in the form of a kneeboard. It provides the Aviator with global positioning system (GPS) moving map capabilities, tactical mission planning and graphic overlays, sunlight readability, and the ability to use Windows-based software.

The EDM includes:

- Moving map display (GPS aircraft position and waypoints)
- Tactical graphics
- Two-way Blue Force Tracking-Aviation situational awareness
- Beyond line-of-sight text messaging
- Displays of checklists, manuals and approach plates in PDF format
- Capability to import mission planning data from Aviation Mission Planning Systems software
- Weight and balance calculations
- Aircraft performance planning calculations
- Electronic notes

The EDM Spiral 3.5 improvements include:

- Faster System Processor and increased memory
- Sunlight Readable and NVG Compatible Display
- 6.4" Sealed Trans-reflective Glass Touch Screen 480x640
- External Power, Ethernet, and USB 2.0 interfaces-enhanced speed and performance
- Dynamic terrain and obstacle avoidance software



PROGRAM STATUS

✓ **FY13:** Fielding dual Spiral 3.5 EDM

PROJECTED ACTIVITIES

+ **FY14:** Continue fielding dual EDMs



CAPTION



Survival Kit, Ready Access, Modular (SKRAM)



MISSION

Provides readily accessible Aircrew survival equipment in a fire-resistant and modular configuration.



CONTRACTORS

Fellfab (Atlanta, GA)

Survival Kit, Ready Access, Modular (SKRAM)

The **Survival Kit, Ready Access, Modular (SKRAM)** provides airworthy and readily accessible carriage for a 72-hour supply of life support and survival equipment in a flame-resistant, modular and configurable backpack.

The SKRAM consists of two **Go Bags**. One is issued per crew station and contains the Aviation Life Support Equipment (ALSE) mandatory minimum survival gear for the geographic area including provisions for additional water. A second Go Bag is issued per individual crewmember and provides carriage for personal mission-specific survival gear including provisions for extra M4 ammunition and the Army's Modular Sleep System.

PROGRAM STATUS

✓ **FY13:** Continue production and fielding

PROJECTED ACTIVITIES

+ **FY14:** Continue production and fielding

+ **FY15:** Transition SKRAM to the operations and support phase



SKRAM GO BAG



SKRAM



Heads-Up Display (HUD) System, AN/AVS-7(V)



MISSION

Provides Pilots with flight symbology while using the AN/AVS-6(V)3 Aviator's Night Vision Imaging System (ANVIS) during night flight operations.



CONTRACTORS

EFW Inc. aka Elbit Systems of America,
(Fort Worth, TX)

Elbit Systems Ltd. (Haifa, Israel)

Heads-Up Display (HUD) System, AN/AVS-7(V)

The **AN/AVS-7(V) Heads-Up Display (HUD)** takes aircraft data from numerous sensors and converts it to graphic files. This provides critical operational information superimposed as symbology onto the image the pilot sees through the ANVIS. The HUD minimizes the need for Pilots to examine cockpit instrument data, thus providing increased situational awareness outside the aircraft. The HUD system consists of the A-kit, which is the wiring harnesses, mounting brackets, and some additional sensors such as air data transducers, inclinometers, and thermocouple amps. A B-Kit, which consists of one CV-4229(V) X/ AVS-7 signal data converter; one C-12293/ AVS-7 converter control unit; and two SU-180/AVS-7 display units. There is also an improved night flat-panel display unit, which can replace the cathode ray tube SU-180s on the legacy platforms. In addition, there is a day flat panel display to give additional situational awareness capabilities. Both flat panel displays can plug and play with legacy systems.



PROGRAM STATUS

- ✓ **FY13:** Continue procurement and fielding

PROJECTED ACTIVITIES

- + **FY14:** Continue to procure systems for the Army, Navy, Air Force, Marine Corps and Coast Guard production lines



HUD CONNECTOR AND DISPLAY UNIT



Laser Eye Protection Visor



MISSION

Protects Aircrew members' eyes from low-energy laser threats and hazards.



CONTRACTORS

Gentex Optics Inc. (Carbondale, PA)

Laser Eye Protection Visor

The **Laser Eye Protection Visor** is a family of polycarbonate ballistic visors that protect Aircrews' eyes from primary laser threats and hazards. Laser eye protection visor works with the Aircrew Integrated Helmet System (AIHS) HGU-56/P.

PROGRAM STATUS

✓ **FY13:** In sustainment

PROJECTED ACTIVITIES

+ **FY14:** Continue sustainment



Maxillofacial Shield (MFS)



MISSION

Provides Aircrew with facial ballistic protection from fragments and structure impacts.



CONTRACTORS

Gentex (Carbondale, PA)

Maxillofacial Shield (MFS)

The **Maxillofacial Shield (MFS)** protects Army Aircrew members from ballistic threats. They provide improved field of view and anti-fogging capabilities over the previous MFS design. They work with the Aircrew Integrated Helmet System (AIHS) HGU-56/P helmet. It is compatible with visors, the Aviator Night Vision Imaging System (ANVIS), Communication Ear Plugs (CEP), Communication Enhancement and Protective System (CEPS), spectacles, microphones and lip lights.



PROGRAM STATUS

- ✓ **FY13:** Sustain and support MFS as one of the AIHS helmet modules

PROJECTED ACTIVITIES

- + **FY14:** Continue sustainment and reset of deploying units



Microclimate Cooling System (MCS)



MISSION

Protects the individual Aircrew member from heat stress injuries in hot weather environments or while wearing chemical and biological protective clothing.



CONTRACTORS

Carleton Technologies Inc. (Orchard Park, NY)

Gibson and Barnes (Santa Clara, CA)

Westwind Technologies Inc. (Huntsville, AL)

Microclimate Cooling System (MCS)

The **Microclimate Cooling System (MCS)** reduces heat stress to Army helicopter crew members, especially while they are wearing chemical and biological protective equipment in hot weather. The MCS gives Army aviators an increase of more than 350 percent (from 1.6 hours to 5.7 hours) in heat-stress mission endurance times while they are wearing chemical protective equipment or other crew member clothing.

The MCS includes a quick-disconnect function to allow Aircrew members to safely and quickly exit an aircraft without a snagging hazard.

The MCS includes a Microclimate Cooling Garment, a vest worn as an undergarment, and a small Microclimate Cooling Unit, which is an autonomous vapor compressor system that chills water and pumps it through small tubes embedded in the vest. The vest is worn beneath chemical protective clothing or other crew member clothing.



PROGRAM STATUS

- ✓ **FY13:** Transitioning from production and deployment to operations and support phase

PROJECTED ACTIVITIES

- + **FY14:** Continue sustainment



MICROCLIMATE COOLING SYSTEM



Portable Helicopter Oxygen Delivery System (PHODS)



MISSION

Provides the aviation Soldier with supplemental breathing oxygen for high altitude missions.



CONTRACTORS

US Divers (Vista, CA)

Oxygen Generating Systems International (Buffalo, NY)

Mountain High Equipment & Supply Co. (Redmond, OR)

Gentex Corp. (Rancho Cucamonga, CA)

Taylor-Wharton (Huntsville, AL)

Portable Helicopter Oxygen Delivery System (PHODS)

The **Portable Helicopter Oxygen Delivery System (PHODS)** is a Soldier-worn portable oxygen system that delivers compressed oxygen from a lightweight oxygen bottle attached to the Air Warrior vest. The system provides oxygen via a nasal cannula, up to 18,000 feet, and via a mask at altitudes above 18,000 feet. PHODS provides supplemental oxygen without restricting movement in and around the aircraft. The system uses a battery-powered pulse-demand oxygen regulator unit that automatically provides on-demand oxygen regulated to altitude based on detected barometric pressure. The PHODS regulator includes algorithms to detect and react to the Aviator's breathing patterns to ensure that the user is receiving the proper oxygen flow based on individual physiological constraints.

The Soldier-worn PHODS components weigh six pounds, compared with the legacy Helicopter Oxygen System (HOS), which weighed more than 100 pounds. PHODS also improves mission capability. Each individual system is replaceable if there is a mechanical issue. Mechanical problems with the HOS meant the aircraft could not execute high altitude operations.

PHODS is supporting a mobile oxygen generating/recharge station that is provided to designated units. The station combines the high pressure and variable flow rate available from an oxygen cylinder with the oxygen generation and replenishment of an oxygen concentrator. By connecting an empty oxygen cylinder, it will automatically refill. These mobile stations are easily transported to battlefield locations.



PROGRAM STATUS

✓ **FY13:** Supporting deployed/deploying units

PROJECTED ACTIVITIES

+ **FY14:** Continue to support deployed/deploying units



PHODS SYSTEM



PHODS CARRYING CASE





“The Nett Warrior means, for me as a scout platoon leader, knowing where my people are at all times and having constant communication with them. For example, sending my guys out...I can look at my screen and know exactly where they are.”

– LTC James Smith, 1st Battalion, 16th Infantry



PRODUCT MANAGER GROUND SOLDIER (PM GS)



PM GS provides unprecedented situational awareness and battle command to the dismounted Soldier through Nett Warrior (NW). Digital imagery and Global Positioning System (GPS) locations provided by NW enable thorough mission planning, ramp-side convoy briefings and on-the-fly changes during missions for High-Value Targets (HVTs). NW allows teams, squads and platoons to pinpoint the location of improvised explosive devices (IEDs), cells or HVTs with improved speed and precision. NW enhances dismounted Soldiers' survivability by rapidly disseminating locations of suspected enemy IEDs and snipers. NW also helps prevent fratricide by providing locations of mounted forces and dismounted friendly Soldiers.



Nett Warrior, the successor to Land Warrior, features significant improvements in usability, and reduce size and weight.

Nett Warrior (NW)



MISSION

Provides overmatch operational capabilities to all ground combat Soldier leaders and small unit operations.



CONTRACTORS

Government is integrator; no prime contractor.

Net Warrior (NW)

The **Net Warrior (NW)** is an integrated dismounted leader situational awareness (SA) system for use during combat operations. The system provides unparalleled SA to the dismounted leader. It allows for faster and more accurate decisions in the tactical fight. With advanced navigation, SA and information-sharing capabilities, leaders are able to avoid fratricide. They are more effective and more lethal in the execution of their combat missions.

The NW program focuses on the development of the SA system, which has the ability to graphically display the location of an individual leader's location on a digital geo-referenced map image on a smart device. Additional Soldier and leader locations also can appear on the smart device digital display. NW connects through a secure radio to send and receive information from one NW to another, thus connecting the dismounted leader to the network. These radios will also connect the equipped leader to higher echelon data and information products to assist in decision making and situational understanding. Soldier position location information will appear on network via interoperability with the Army's Joint Tactical Radio System capability. This allows the leader to easily see, understand and interact in the method that best suits the user and the particular mission.

NW will optimize and integrate capabilities while reducing the Soldier's combat load and logistical footprint.

**PROGRAM STATUS**

- ✓ **FY13:** First Unit Equipped (2/1st Armor Div); fielded to: 75th Ranger Regiment; 3/10 MTN; 4/10 MTN; 2/101 ABN DIV; 3/101 ABN DIV
- ✓ **FY14:** Fieldings: 3rd CR; 2/82 ABN DIV; 1/101 ABN DIV AASLT); 1/10 MTN; 2/10 MTN; 3/82 ABN DIV
- ✓ **3Q-4QFY14:** Initial Operational Test & Evaluation

PROJECTED ACTIVITIES

- + **2QFY15:** Full Rate Production Decision

**CHEST MOUNT****END USER DEVICE****JTRS RADIO**



“The [Squad] Power Manager allowed us to harvest... remaining energy from [a] battery and put it into another battery to power equipment. So basically, we were able to take something that would be wasted and useless to us, harvest it, put it into another battery, and use it for our operational needs.”

– LTC James Smith, 1st Battalion, 16th Infantry



PRODUCT DIRECTOR SOLDIER SYSTEMS INTEGRATION (PD SSI)

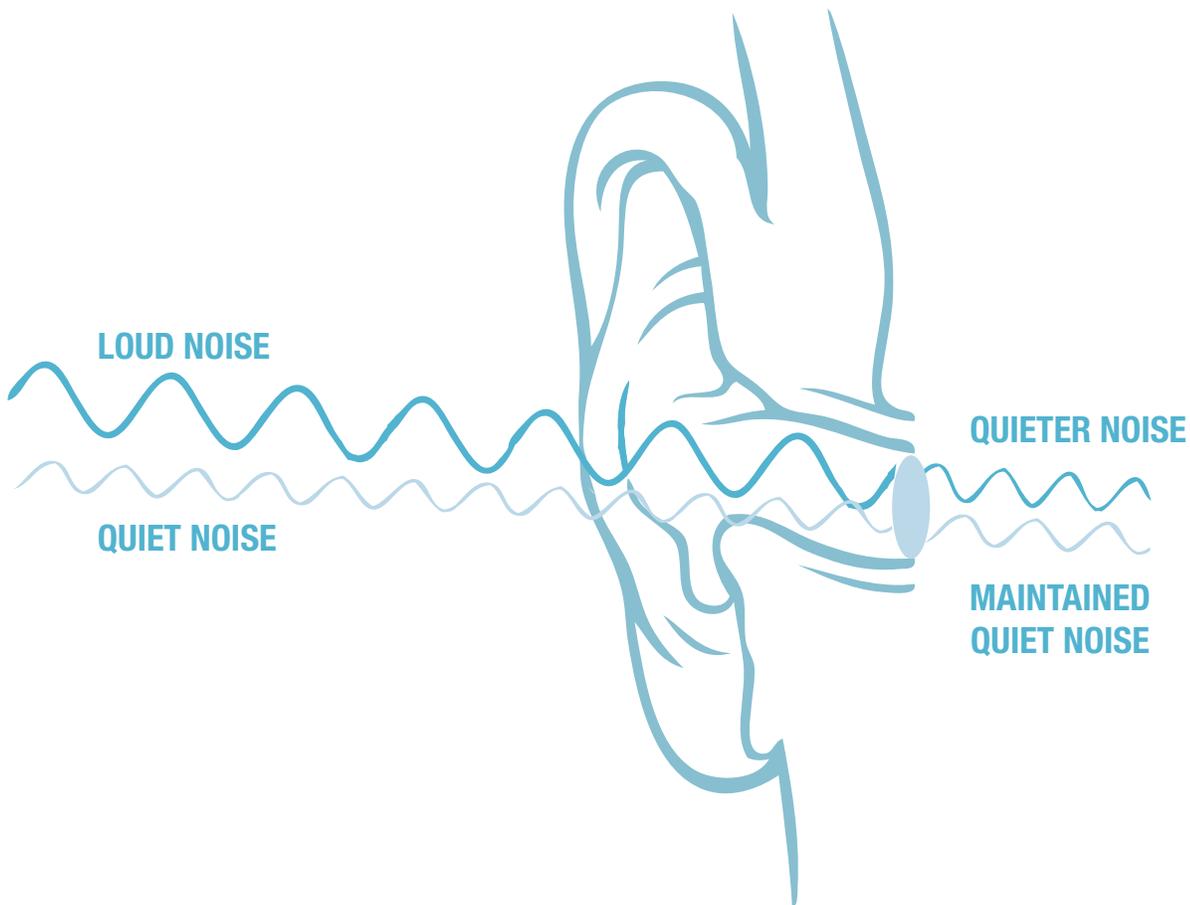


Product Director Soldier Systems Integration (SSI) provides cross-product Soldier hardware systems integration support to enable the PEO at the enterprise level to visualize, understand, and deliberately evolve the Soldier system into a mission-tailorable set of capability modules that function as a seamless, integrated suite by using a deliberate, collaborative Systems Engineering process. PD SSI also provides total life cycle management of the Tactical Communication and Protective System (TCAPS) program, Soldier Power, and administers the Soldier Enhancement Program (SEP) on behalf of PEO Soldier.



The **Modular Universal Battery Charger (MUBC)** can replace multiple specialized chargers currently in the Army inventory. It is designed to support the most common lithium ion batteries in use (BB2590, AN-PRC 148/152/154, LI 145/80, conformal batteries and USB 2.0). It is also forward compatible by virtue of its modular design.

Tactical Communication and Protective System (TCAPS)



MISSION

Fields concurrent hearing protection and auditory situational awareness device to Soldiers to increase hearing readiness and reduce hearing damage/subsequent post-service hearing disabilities resulting from high noise exposure for combat Soldiers.



CONTRACTORS

TEA Headsets (Brewster, NY)

Tactical Communication and Protective System (TCAPS)

The **Tactical Communication and Protective System (TCAPS)** provides concurrent hearing protection and auditory situational awareness. Historically, Soldiers have had to choose between hearing protection and force protection. As a combat force multiplier, TCAPS maintains hearing protection while enabling Soldier to use existing tactical radio resulting in increase mission effectiveness, safety, and survivability.

TCAPS Benefits to the Warfighter:

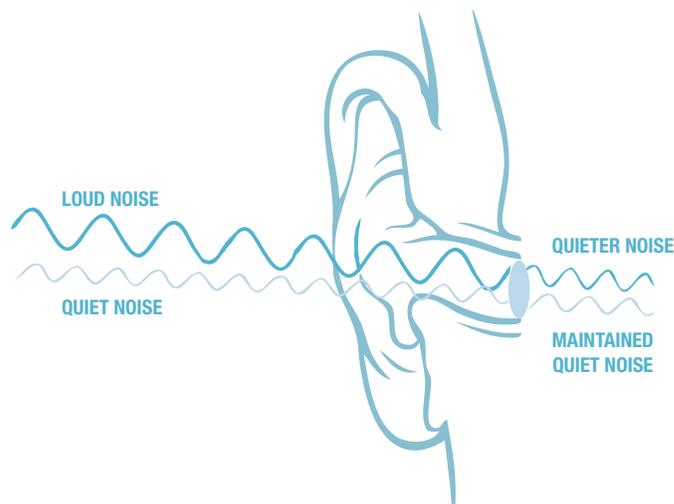
- Prevention of hearing injury
- Enhanced Command, Control and Situational Awareness
- Enhanced ability to locate and identify opposing forces while wearing hearing protection
- Seamless integration with existing communication equipment

PROGRAM STATUS

✓ **FY13** – First Unit Equipped

PROJECTED ACTIVITIES

+ **FY14** – Fielding and continuing examination of emerging technologies



Soldier Power



MISSION

Develop, acquire, and field expeditionary, lightweight Soldier power solutions intended for the most austere operating environment and designed to reduce Soldier Load and increase lethality.



CONTRACTORS

Various

The current **Soldier Power** portfolio consists of the Squad Power Manager (SPM), the Modular Universal Battery Charger (MUBC), the Soldier Worn Integrated Power Equipment Systems (SWIPES), and the Conformal Battery.



The **SPM** is a lightweight portable power management system that can provide device power or battery charging for up to four devices, including tactical radios, DAGRs, laptop computers, and USB powered equipment. It can use power from solar sources, AC, military disposable batteries, NATO vehicle standard interface as well as civilian vehicles.

The **MUBC** can replace multiple specialized chargers currently in the Army inventory. It is designed to support the most common lithium ion batteries in use (BB2590, AN-PRC 148/152/154, LI 145/80, conformal batteries and USB 2.0). It is also forward compatible by virtue of its modular design.

Operating temperature:

-10°C–50°C

Compatible with wide array of MILSTD batteries



The **Conformal Battery** is a rugged, ergonomically correct battery pack that provides 150 watt-hours. Its thin, flexible design allows for safe operation and conformation to a Soldier's front, back or side ballistic plates.

The **SWIPES** is a modular power distribution system that is designed for use with the conformal battery. For commonly used handheld communications, SWIPES utilizes MOLLE pouch mounted chargers to maintain a high level of charge (80%) with the peripheral battery. The SWIPES also provides direct power to various devices including GPS, radios, and Gun Shot Detection systems. This approach reduces the need for carrying spare batteries for each peripheral during extended missions.



"Trickle Charges" AN-PRC148, 152, and 154 batteries Provides direct power to GPS, and USB 2.0 technologies

PROGRAM STATUS

✓ **FY13:** Fielded to Capability Set 13 units

PROJECTED ACTIVITIES

+ **FY14:** Field to Capability Set 14 units; continue examining emerging technologies



Warrior Integration Site (WinSite)



MISSION

To provide modular and tailorable solutions that enable product cross integration and optimize equipment at the system level to improved Soldier's loads, force protection, lethality, mission command, situational awareness, and sustainability while minimizing cost.



CONTRACTORS

To be determined

Warrior Integration Site (WinSite)

The Program Executive Office (PEO) Soldier is responsible for the individual Soldier platform and Squad equipment's Integration training, fielding, and sustainment.

The objective of the **Warrior Integration Site (WinSite)** is to establish and maintain a collaborative design environment for integration of products at the Soldier System Level and to document and maintain the technical, virtual and physical representation of the integrated Soldier System baseline.

WinSite provides Integrated Product Teams (IPTs) with state-of-the-art tools that help visualize problems in the totality to make decisions on design alternatives or solutions. This environment enables IPTs the means to evolve and mature integrated Soldier solutions fast, inexpensively, and over extended distances supported with relevant metrics and measures.



Project Manager Soldier Weapons (PM SW)

Product Manager Individual Weapons

Product Manager Crew Served Weapons





PM SW ensures that Soldiers on the battlefield have overmatch capabilities in individual and crew served weapons. PM SW supports Soldiers through the development, production, fielding, and sustainment of current and future weapons systems, as well as associated target acquisition/fire control products. As a result of PM SW's efforts, Soldiers benefit from continuous improvement programs and are equipped with systems that enhance both survivability and lethality. Two product managers under PM SW drive the mission to provide Soldiers battlefield superiority: Product Manager Individual Weapons and Product Manager Crew Served Weapons.



“There have been multiple, multiple engagements where the enemy says, ‘Hey, I’ll hide behind this giant boulder. No matter what you hit me with, you can’t get through this boulder.’ With the XM25 you can hit the enemy within range, behind anything.”

– **SFC Ken Shriver**

PRODUCT MANAGER INDIVIDUAL WEAPONS (PM IW)



PM IW is responsible for current and future rifles, carbines, pistols, shotguns, grenade launchers, sniper systems, airburst weapon systems and related target acquisition/fire control products.



The **Counter Defilade Target Engagement (CDTE) System** provides the infantry Soldier with leap-ahead overmatch capability and range with a family of 25mm programmable ammunition.



The **M2010 Enhanced Sniper Rifle (ESR)** provides the Army Sniper greater range against personnel targets over existing 7.62 x 51mm sniper weapons.

M4/M4A1 Carbine



MISSION

Deters and repels adversaries with accurate, lethal and direct fire.



CONTRACTORS

M4 Carbine

Colt's Manufacturing Co. (Hartford, CT)

M4/M4A1 Carbine

The **M4 Carbine** is designed for lightness, speed, mobility and firepower and is standard issue for brigade combat teams. In more than 10 years of sustained combat operations, the M4 has proven itself an effective weapon system that serves our Soldiers extremely well. The system is one pound lighter and more portable than the M16 series of rifles. The M4 can also be mounted with the M203A2 Grenade Launcher, M320A1 Grenade Launcher or M26 Modular Accessory Shotgun System. The weapon has received many performance-based design improvements since its inception..

In September 2010, Headquarters Department of the Army authorized the M4A1 as the standard carbine for the U.S. Army. Compared to the M4, the M4A1 is fully automatic and incorporates a new ambidextrous fire control. It utilizes a heavier barrel that increases the sustained rate of fire.

The M4 improvement plan is broken into two phases. As part of Phase I, PM Soldier Weapons converted its contract in August 2010 for all remaining M4s to M4A1 specifications. Subsequently, PM Soldier Weapons initiated a competition for an additional 48,000 M4As to complete its acquisition objective at the time. It issued solicitations and awarded multiple contracts for weapon components to convert fielded M4s into M4A1s with ambidextrous fire control assemblies through Modification Work Orders beginning in early spring 2014.

Phase II explores the feasibility of further improvements to the M4A1. In one solicitation, the Army concluded that no bolt and bolt carrier assembly submissions met the solicitation requirements, particularly for reliability, durability and high-temp/low-temp tests. In another solicitation, the Army continues to compete and test forward rail assemblies. Comprehensive technical testing and a down-select decision to a single vendor are planned to be complete by the end of 4QFY14.

The **M4 Adapter Rail System (ARS)** replaces the hand guards, allowing a Soldier with M4/M4A1 Carbines additional MIL-STD-1913 rails to attach mission-specific accessories to enhance lethality and Soldier effectiveness.



Soldiers can add or remove accessories such as the laser rangefinder, infrared illuminator/pointer and thermal sights as the mission dictates without the use of special tools.

SPECIFICATIONS

Caliber: 5.56mm

Weight: M4 7.46 pounds; M4A1 7.74 pounds (empty weapon only)

Length: 29.75 inches (retracted), 33.00 inches (extended)

Barrel length: 14.5 inches

Range: 500 meters

PROGRAM STATUS

M4

- ✓ Delivery and fielding to all brigade combat teams is complete (Army)

M4A1

- ✓ **2QFY14:** M4 Product Improvement Program initiated at Anniston Army Depot, AL
- ✓ **3QFY14:** Converted first unit (1st ID) quantity of all M4s to the M4A1 configuration at Ft. Riley, KS
- ✓ **3QFY14:** 60,000 M4A1 Carbines for the Army put on contract with FN Manufacturing LLC

PROJECTED ACTIVITIES

M4

- + In sustainment

M4A1

- + Continue conversions of M4s to M4A1s via the M4 Product Improvement Program



M16A2/A4 Rifle



MISSION

Deters and repels adversaries with accurate, lethal, direct fire.

CONTRACTORS

M16A2/A4 Rifle

Colt Defense (Hartford, CT)

FN Manufacturing, LLC (Columbia, SC)



M16A2/A4 Rifle

The **M16A2/A4 Series 5.56mm Rifle** provides Soldiers with the ability to deter and, if necessary, repel adversaries by enabling individuals and small units to engage targets with accurate, lethal, direct fire. It is a gas-operated, air-cooled, shoulder-fired weapon that can be fired either in automatic three-round bursts or semi-automatic single shots. The M16A2 has an integral rear sight, while the M16A4 includes a MIL-STD 1913 upper receiver and forward rail system with a backup iron sight. Both systems can accommodate modern optics, accessories and configurations that incorporate M203 and M320 40mm Grenade Launchers.

**SPECIFICATIONS**

Caliber: 5.56mm

Weight: 8.77 pounds (with sling and loaded mag)

Length: 39.625 inches

Barrel length: 20 inches

Range: 550 meters (point target)

PROGRAM STATUS

✓ Production of the M16A2 and M16A4 is complete

PROJECTED ACTIVITIES

+ In sustainment



M320 Grenade Launcher (GL)



MISSION

Enabling battlefield dominance while lightening the Soldier's load with modularity.



CONTRACTORS

Prime

Heckler & Koch Defense (Ashburn, VA)

Subcontractor

Bushnell Inc. (Overland Park, KS)

M320 Grenade Launcher (GL)

The **M320/M320A1 Grenade Launcher** enables Soldiers to accurately engage the enemy in daylight or total darkness out to 400 meters with 40mm low-velocity grenades. The M320 will replace all M203 series grenade launchers mounted on the M16/M4 series of rifles and carbines. The M320 can be mounted on the M16 series of rifles, while the M320A1 can be mounted on the M4 series of carbines. The weapon includes a side-loading unrestricted breech that permits the system to fire longer 40mm projectiles (NATO standard and non-standard).

The M320 is more reliable and safer than its predecessor the M203 because it uses a more modern double-action trigger/firing system. If the weapon misfires, the Soldier can pull the trigger again. The M203 required cycling of the breech to re-cock the firing pin and pulling the trigger again.

The new pistol grip design eliminates the need to use the magazine as a hand grip. The latest innovations in lightweight material composites improve durability.

SPECIFICATIONS

Caliber: 40mm

Weight: 6.48 pounds (stand-alone, empty); 3.42 pounds (mounted, empty)

Length: 11.2 inches (stand-alone)

Barrel Length: 8.5 inches

Range: 400 meters



PROGRAM STATUS

✓ **2QFY14:** Follow-on contract award to Heckler & Koch Defense

PROJECTED ACTIVITIES

+ **4QFY14:** Release competitive solicitation for the balance of Army requirements

+ **3QFY15:** Award contract for the balance of Army requirements

+ **1QFY19:** M320/M320A1 production ends



M320 STAND-ALONE SYSTEM



M320 MOUNTED UNDERNEATH M4



M203/M203A1/M203A2 Grenade Launcher



MISSION

Increases Soldier lethality and operational flexibility with a grenade capability that bridges the gap between hand grenade and mortar.



CONTRACTORS

M203A2 Grenade Launcher

Airtronic Services Inc. (Elk Grove Village, IL)

Colt Defense (New Haven, CT)

Knight's Armament Co. (Titusville, FL)

M203A2 Grenade Launcher

The **M203/M203A1/M203A2 Grenade Launcher** enables Soldiers and small units to engage targets with accurate, lethal, grenade fire. The M203 is a 40mm single-shot grenade launcher designed for use with the M16, the M203A1 is used with the M4, and the M203A2 is the current modification that provides a mounting system compatible with the M16A4 and M4 and includes a quick attach bracket and a leaf sight to attach to the adapter rail system. The system has the ability to fire tear gas rounds, smoke, non-lethal projectiles, signal and practice rounds and standard 40mm rounds out to 320 meters.

**SPECIFICATIONS**

Caliber: 40mm

Weight: 3 pounds

Length: 12 inches

Range: 350 meters

PROGRAM STATUS

✓ Production complete for Army

PROJECTED ACTIVITIES

+ In sustainment



M203 40MM GRENADE LAUNCHER



QUADRANT SIGHT



LEAF SIGHT



M26 12-Gauge Modular Accessory Shotgun System (MASS)



MISSION

Enhances Soldier effectiveness with lethal, less-than-lethal and door-breaching capabilities with a 12-gauge accessory shotgun attachment. It provides faster transition time between the primary weapon and shotgun.



CONTRACTORS

Vertu Corp. (Warrenton, VA)

M26 12-Gauge Modular Accessory Shotgun System (MASS)

The **M26 12-Gauge Modular Accessory Shotgun System (MASS)** provides Soldiers with a 12-gauge shotgun accessory attachment with lethal, less-than-lethal and door-breaching capabilities. The system attaches underneath the barrel of the M4 Carbine and provides a capability equivalent to a stand-alone shotgun without carrying a second separate weapon. The M26 can also be converted without tools to operate in a stand-alone mode with no loss in functionality.

The M26 MASS comes with a recoil-absorbing, collapsible buttstock. The Picatinny rail on top allows attachment of accessory equipment to the shotgun. The bolt handle (charging handle) can mount on either side for ambidextrous handling.

Additional features include a box magazine, flip-up sights and an extendable stand-off device for door breaching.

SPECIFICATIONS

Caliber: 12-gauge

Weight: 3.5 pounds (attached mode, empty);
5.5 pounds (stand-alone, empty)

Length: 16.5 inches (attached mode);
26.5 inches (stand-alone)

Range: 40 meters



PROGRAM STATUS

✓ **Ongoing:** Production of Army quantities

PROJECTED ACTIVITIES

+ **2QFY15:** Production ends, program transitions to sustainment



M26 STAND-ALONE SYSTEM



M26 MOUNTED UNDERNEATH M4



M500 Shotgun



MISSION

Increases the Soldier's capability for door breaching and crowd control.



CONTRACTORS

O.F. Mossberg & Sons Inc. (North Haven, CT)

The **M500 Shotgun** provides short-range lethal and less-than-lethal crowd control and door-breaching capabilities with appropriate ammunition types. It is a manually (slide) operated repeating shotgun chambered in 12 gauge, with an integral five-round tubular magazine. The M500 is commonly issued to infantry, military police, engineers and armorers.

SPECIFICATIONS

Caliber: 12-gauge

Weight: 7.7 pounds

Length: 39.5 inches

Range: Ammunition dependent

PROGRAM STATUS

✓ Production complete

PROJECTED ACTIVITIES

+ In sustainment

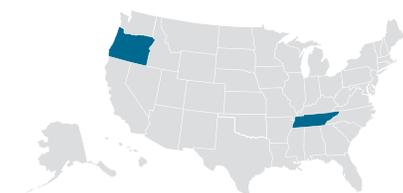


M107 Semi-Automatic Long Range Sniper Rifle (LRSR)



MISSION

Enables Sniper teams to employ greater destructive force against light materiel and personnel targets at longer ranges.



CONTRACTORS

Barrett Firearms Manufacturing
(Murfreesboro, TN)

Leupold & Stevens Inc. (Beaverton, OR)

M107 Semi-Automatic Long Range Sniper Rifle (LRSR)

The **M107 Semi-Automatic Long Range Sniper Rifle (LRSR)** fires .50-caliber ammunition. It is capable of delivering precise, rapid fire on targets out to 2,000 meters. This greatly exceeds the terminal effect capability of the M2010, M110 or M24 sniper rifles. It is especially valuable during military operations in urban terrain where greater firepower and standoff ranges provide counter-sniper capability while enhancing sniper survivability.

The rifle is a commercial off-the-shelf weapon. It incorporates a dual-chamber detachable muzzle brake, dual barrel springs, and long mainspring design to reduce weapon recoil. It leverages a variable power day optic sight and a 10-round detachable box magazine. It weighs 35 pounds (combat ready). The LRSR includes folding front and rear sights, fluted match-grade barrel, detachable carrying handle, rubber recoil pad, rear grips, and a MIL-STD 1913 rail. The Mk211-Mod0 (A606), Caliber .50, Multipurpose Cartridge is the preferred tactical ammunition against anti-materiel targets. It is employed by all U.S. military services as well as 60 additional armies around the world.

Accessories include a Leupold variable power 4.5-14x50mm day optic site, hard and soft cases, detachable folding bipod, detachable sling, extra 10-round magazines, cleaning/maintenance equipment, and manuals.



SPECIFICATIONS

Caliber: .50 caliber Browning Machine Gun (BMG)

Weight: 35 pounds (combat ready)

Overall length: 57 inches

Barrel length: 29 inches

Range: 2,000 meters

PROGRAM STATUS

✓ In sustainment

PROJECTED ACTIVITIES

+ Sustainment



M2010 Enhanced Sniper Rifle (ESR)



MISSION

Enables sniper teams to engage enemy personnel with an M24 Sniper Weapon System converted to fire .300 Winchester Magnum (WinMag) ammunition. It offers greater precision and a 50 percent increase in effective range beyond current Army 7.62mm sniper rifles.



CONTRACTORS

Remington Arms Co. Inc. (Ilion, NY)
Leupold & Stevens Inc. (Beaverton, OR)
Advanced Armaments Co. (Lawrenceville, GA)

M2010 Enhanced Sniper Rifle (ESR)

The **M2010 Enhanced Sniper Rifle (ESR)** is a fully upgraded M24 Sniper Weapon System that has been rechambered to fire .300 WinMag ammunition. The bolt-action, magazine-fed system provides precision fire on targets at ranges 50 percent further than predecessor 7.62mm sniper systems. The M2010 is equipped with a suppressor and a fully adjustable right-folding chassis system featuring a monolithic MIL-STD 1913 accessory rail and accessory cable routing channels. The shooter interface can be tailored to accommodate a wide range of shooter preferences. The M2010 is fielded with a Leupold Mark 4 6.5-20x50mm Extended Range/Tactical Riflescope with a scalable ranging and targeting reticle and an AN/PVS-30 Clip-on Sniper Night Sight. The Army fielded the system to all sniper teams operating in Afghanistan in 2011.



PROGRAM STATUS

✓ **3QFY14:** Final M2010 ESR delivered to the Army

PROJECTED ACTIVITIES

+ In sustainment

SPECIFICATIONS

Caliber: .300 WinMag

Weight: 17.8 pounds (empty); 18.7 pounds (combat ready with suppressor)

Length: 44.7 inches (without suppressor); 52.2 inches (extended buttstock with suppressor)

Barrel length: 24 inches

Range: 1,200 meters



M110 7.62mm Semi-Automatic Sniper System (SASS)



MISSION

Supplements the sniper's role to support combat operations with greater firepower, greater versatility and more focused target engagements to improve sniper survivability.



CONTRACTORS

Knight's Armament Co. (Titusville, FL)
Leupold & Stevens Inc. (Beaverton, OR)

M110 7.62mm Semi-Automatic Sniper System (SASS)

The **M110 Semi-Automatic Sniper System (SASS)** is the Army's medium caliber sniper rifle that supplements the sniper's role to support combat operations with greater firepower and versatility. The 7.62mm SASS brings a semi-automatic capability to sniper teams and is particularly effective in urban areas where there are multiple targets and frequent close-combat situations. The M110 comes with a suppressor and incorporates a 3.5x10 scope with illuminated mil-reticle. It also comes with a M151 Enhanced Spotting Scope.

The M151 Enhanced Spotting Scope allows recognition and identification of targets at long distances. With powerful and bright optics, the spotting scope has 12-40x magnification with a 60mm objective lens diameter. The scope has a Leupold mil dot (round dot) reticle for both range estimation and tactical collaboration with the shooter. The scope is weatherproof and fogproof.

SPECIFICATIONS

Caliber: 7.62mm

Weight: 15.7 pounds (empty); 17.3 pounds (with suppressor)

Length: Buttstock fully compressed: 40.5 inches (without suppressor), 46.5 inches (with suppressor)

Range: 800 meters



PROGRAM STATUS

✓ **1QFY14:** Production completed

PROJECTED ACTIVITIES

+ In sustainment



M151 IMPROVED SPOTTING SCOPE



M24 Sniper Weapon System (SWS)



MISSION

Enables sniper teams to engage enemy personnel with a 7.62mm bolt-action rifle using precision fire at extended ranges.



CONTRACTORS

Remington Arms Co. Inc. (Ilion, NY)

Leupold & Stevens Inc. (Beaverton, OR)

M24 Sniper Weapon System (SWS)

The **M24 Sniper Weapon System (SWS)** is a 7.62mm bolt-action, six-shot rifle that chambers 7.62 x 51mm M118 long-range ammunition. Components include a day optic sight with 10-x magnification and adjustable focus, metallic iron sights, deployment kit, cleaning kit (rifle and optic), soft rifle carrying case, optic and system cases, operator's manual and an optional bipod.

Associated support equipment includes the AN/PVS-10 Sniper Night Sight and an improved spotting scope.

SPECIFICATIONS

Caliber: 7.62mm

Weight: 13.32 pounds (empty); 14.25 pounds (with sling, day optic and full magazine)

Length: 40.75 inches

Barrel length: 24 inches

Range: 800 meters

PROGRAM STATUS

- ✓ Fielding complete

PROJECTED ACTIVITIES

- + **FY14:** Removing M24s from unit Modified Table of Organization and Equipment (MTOE) as part of program Type Classification-Obsolete



M14 7.62mm Enhanced Battle Rifle (EBR)



MISSION

Provides infantry squads with a squad-designated marksman capability to engage enemy targets accurately beyond the range of M4 carbines and M16 rifles.



CONTRACTORS

Sage International, LTD (Oscoda, MI)
Leupold & Stevens Inc. (Beaverton, OR)

M14 7.62mm Enhanced Battle Rifle (EBR)

The **M14 7.62MM Enhanced Battle Rifle (EBR)** provides infantry squads operating in Afghanistan with interim capability to engage enemy targets beyond the range of M4 carbines and M16 rifles. The weapon is air-cooled, gas-operated and magazine-fed. It is a modern M14 rifle mated to an enhanced aluminum billet stock, tactical scope and cantilever mount. The rifle is effective in close quarters combat and in the conceptual squad-designated marksman role.

SPECIFICATIONS

Caliber: 7.62mm

Weight: 14.9 pounds (empty); 16.6 pounds (with loaded magazine)

Length: 46.5 Inches

Barrel Length: 22 inches

Range: 800 meters



PROGRAM STATUS

✓ Production completed

PROJECTED ACTIVITIES

+ In sustainment



M9 Pistol



MISSION

Enhances Soldier lethality, survivability and situational awareness in close combat situations via an improved pistol with rail attachment capabilities.



CONTRACTORS

Beretta U.S.A. Corp. (Accokeek, MD)

M9 Pistol

The **M9 9mm Pistol** enhances lethality and survivability in close combat situations via a pistol with rail-attachment capabilities. The 9mm semi-automatic, double-action pistol is the primary sidearm of crew served weapon crewmen and others who have a personal defense requirement, such as law enforcement personnel, unit leaders and aviators.

The **M9 Pistol Rail System** allows attachment of an Integrated Laser White Light Pointer (ILWLP) to the M9 Pistol. This provides a tactical advantage in close combat operations. Use of the ILWLP resulted in increased lethality and survivability for Special Forces Soldiers and Military Police.

SPECIFICATIONS

Caliber: 9mm

Weight: 33.9 ounces (empty); 40.9 ounces (with loaded 15-round magazine)

Length: 8.5 inches

Barrel Length: 4.9 inches



PROGRAM STATUS

✓ Fielding complete

PROJECTED ACTIVITIES

+ Sustainment



M68 Close Combat Optic (CCO)



MISSION

Provides the Soldier armed with an M16 Rifle or M4 Carbine with a robust precision electronic optical red dot sight for use with both eyes open to improve Soldier effectiveness.



CONTRACTORS

Aimpoint Inc. (Chantilly, VA)

M68 Close Combat Optic (CCO)

The **M68 Close Combat Optic (CCO)** is a unity power, red dot aiming device that enhances target acquisition speed, allowing Soldiers to engage targets up to 300 meters with both eyes open to maintain situational awareness. The M68 CCO is compatible with all current night vision enhancements. It is the standard issue sight for the M4/M16.

SPECIFICATIONS

Weight: 14 ounces (M16A4/M4 configuration);
13.1 ounces (M16A2 configuration)

Length: 5.3 inches

Magnification: None

PROGRAM STATUS

✓ Production completed

PROJECTED ACTIVITIES

+ In sustainment



M150 Rifle Combat Optic (RCO)



MISSION

Provides optical enhancements that increase the probability of a first-round hit at distances of up to 600 meters.



CONTRACTORS

Trijicon (Wixom, MI)

M150 Rifle Combat Optic (RCO)

The **M150 Rifle Combat Optic (RCO)** is a rugged, battery-free, 4x magnified optic that provides full mission profile optical capability for use on M4/M16/M249 weapon systems. Enhanced capabilities provided by the M150 RCO include range estimation, which, with the bullet drop compensated reticle, provides accurate target engagements from 300 to 600 meters for trained operators.

The Army is currently converting previously fielded USMC TA31RCOs-M4 ACOGs to the standard M150 RCO configuration.

SPECIFICATIONS

Weight: 16.2 ounces

Length: 8.2 inches

Magnification: 4x

PROGRAM STATUS

✓ Production complete

PROJECTED ACTIVITIES

+ In sustainment



M151 Spotting Scope System



MISSION

Designed for use by a sniper team, the M151 Spotting Scope System allows recognition and identification of targets at long distances.



CONTRACTORS

M151 Enhanced Spotting Scope

Leupold & Stevens Inc. (Beaverton, OR)

M151 Tactical Tripod Kit

Ashbury International Group Inc.
(Charlottesville, VA)

M151 Improved Spotting Scope

The **M151 Sniper Spotting Scope** allows recognition and identification of targets at long distances. A light and compact scope with powerful and bright optics, the M151 has 12-40x magnification with a 60mm objective lens diameter. The scope has a mil dot (round dot) reticle for both range estimation and tactical collaboration with the shooter. The scope is weatherproof and fogproof. A laser filter unit protects the observer from magnified eye hazards on the battlefield. It also has an anti-reflection device to virtually eliminate detection from returned glint off the scope's objective lens.

The Army is undertaking a multiphase process to upgrade the mirrors and improve the reticle of all M151 Sniper Spotting Scopes. In addition, the Night Vision Adapter (NVA) has replaced the MonoLoc to improve the interface of the AN/PVS-14 Monocular Night Vision Device with the M151.

The **Tactical Tripod Kit** allows spotters to employ the sight from the prone to sitting positions. Constructed of high-strength lightweight aluminum alloys, the tactical tripod deploys quietly and provides rock-solid stability necessary for sniper reconnaissance, target interdiction, observation and surveillance missions.

SPECIFICATIONS

Length: 12.4 inches

Weight: 2.31 pounds

Magnification: 12-40X

Lens Diameter: 60mm



PROGRAM STATUS

- ✓ Delivery and fielding complete

PROJECTED ACTIVITIES

- + In sustainment
- + **FY14-FY16:** Multiphase mirror upgrade and reticle improvement in process for M151 fleet



Close Quarters Battle Kit (CQB Kit)



MISSION

Provides accessories for the M4 Carbine and M16 Rifle that increase Soldier lethality and survivability.

CONTRACTORS

Forward Rail Bracket

GG&G Inc. (Tucson, AZ)
Samson Manufacturing Inc. (Whately, MA)

Forward Grip/Bipod

Grip Pod Systems (Jacksonville, FL)

Improved Weapons Cleaning Kit

Otis Products Inc. (Lyons Falls, NY)

Multi Magazine Holder

Thor Defense Inc. (Downers Grove, IL)

Tactical Sling

Fire Force Tactical Gear Inc. (Arcadia, CA)

SDM Bipod

GG&G Inc. (Tucson, AZ)

Improved Magazine

Okay Industries Inc. (New Britain, CT)

Center Industries Corp. (Wichita, KS)

Brownells Inc. (Montezuma, IA)



Close Quarters Battle Kit (CQB Kit)

The **Close Quarters Battle Kit (CQB Kit)** provides several low-cost, commercial-off-the-shelf accessories for the M4 Carbine and M16 Rifle. The CQB Kit includes multi-magazine holder with storage pouch and dust cover, forward rail bracket, squad designated marksman bipod, forward grip/bipod, improved weapons cleaning kit, tactical sling, and improved magazine. All items, with the exception of the weapons cleaning kit, are no longer in production but are still being fielded.

The improved weapons cleaning kit has evolved into two separate kits. The individual kit will be issued to every Soldier with a M4/M16, while one team kit will be issued to every fire team of four Soldiers. The individual kit will contain tools needed to clean 5.56mm weapon systems. The team kit will contain tools that can clean weapon systems of 5.56mm, 7.62mm, 9mm and .45 caliber.



INDIVIDUAL CLEANING KIT

PROGRAM STATUS

- ✓ **4QFY13:** Contract awarded for new improved weapons cleaning kit

PROJECTED ACTIVITIES

- + **3QFY14:** First delivery of the new improved weapons cleaning kit



MULTI-TOOL IN POUCH



MULTI-TOOL



TEAM CLEANING KIT



Individual Weapons Future Initiatives

FUTURE ENHANCED SNIPER SYSTEMS

Precision Sniper Rifle

The Army is currently staffing requirements for the Precision Sniper Rifle (PSR) program. It is an extremely long-distance, highly accurate weapon system that nearly doubles the effective range of anti-personnel sniper engagements compared to today's 7.62mm systems. The PSR will fill the gap between less accurate longer distance .50 caliber anti-materiel sniper rifles and the 800-meter range M110 and M24 weapon systems.

Compact Semi Automatic Sniper System (CSASS)

The CSASS initiative will result in the acquisition and fielding of a shorter, lighter, more accurate, more ergonomic and more reliable Semi-Automatic Sniper System (SASS) than the M110 with an improved day optic and suppressor. Compared to the M110, the CSASS will be easier to carry, handle and maneuver in close quarters combat. It will lighten the load for carrying over rough terrain for the longer range ridgeline to ridgeline fight. These improvements will not sacrifice existing performance, accuracy or reliability.

FIRE CONTROL SOLUTIONS AND IMPROVED OPTICS

Closing the gap between the mechanical capability of a weapon system and combat stress shooting is a goal that lies at the heart of the Army's pursuit of fire control technology. It will make snipers and Soldiers even more effective in combat.

Fire controls are integrated devices that leverage multiple technologies to provide a single ballistic solution. Capabilities common to an advanced fire control device include a laser rangefinder to determine the distance to a target, a ballistic sensor to detect the position of the weapon system, and sensors that can measure local and downrange environmental conditions that would affect the trajectory of a round. The ability to share a sight picture with other friendly forces via a secure wireless network is also desirable. Such devices could be employed on a full range of small arms systems, from precision sniper rifles and carbines to heavy machine guns. The Army continues to conduct fire control research and development and is closely monitoring industry's advancements in this field.

CARBINE MODERNIZATION – M4 PRODUCT IMPROVEMENT PROGRAM

The M4 series has served Soldiers well throughout more than a decade of sustained combat. Yet, it is critical for the Army to continue to improve the nearly 500,000 M4s in its inventory since the M4 series will remain in the field for years to come. The Army is pursuing a two-phase Product Improvement Program (PIP) to keep the M4 inventory strong. Phase I upgrades the Army's M4s to the Special Forces' M4A1, while Phase II explores future improvements for the M4A1 Carbine to deliver enhanced reliability, durability, ergonomics and zero retention.

There are several benefits to upgrading M4s to M4A1s. Compared to the M4, the M4A1 has full auto capability, a consistent trigger pull and a slightly heavier barrel. The heavier barrel is more durable and has greater capacity to maintain accuracy and zero while withstanding the heat produced by high volumes of fire. New and upgraded M4A1s will also receive ambidextrous fire control.

The M4 PIP is t another step in a long history of continuously improving Soldier weapons. The Army has already made more than 90 performance "Engineering Change Proposals" to the M4 Carbine since its introduction. Past improvements have been made to the trigger assembly, extractor spring, recoil buffer, barrel chamber, magazine and bolt, as well as ergonomic changes to allow Soldiers to tailor the system to meet their needs. Today's M4 is quite different "under the hood" than its predecessors, and tomorrow's M4A1 will be even further refined to provide Soldiers with an even more effective and reliable weapon system.

MODULAR HANDGUN SYSTEM (MHS)

The U.S. Army has approved requirements for the Modular Handgun System (MHS) and will initiate a full and open competition in 2014 to replace the M9 Pistol (the Army's standard sidearm since 1986) and M11 Pistols. The requirement calls for the MHS to create a larger wound channel; be more accurate; achieve improved ergonomic characteristics; and be more reliable, durable and maintainable than current handguns. The effort will focus on system characteristics that contribute to greater Soldier effectiveness on the battlefield as compared to current M9/M11 systems. "Modularity" shall permit maximum common and interchangeable parts and allow users to configure sighting, accessories, actions and sizes to match missions. The system design will enable the user to integrate accessories such as aiming lasers, illuminators and suppressors.



“We used CROWS in surveillance mode. If we had a dismounted patrol out, we were able to keep eyes on our guys at night. I could just go on and on about the different capabilities we were able to take advantage of with the system.

-CSM James Hodges



PRODUCT MANAGER CREW SERVED WEAPONS (PM CSW)



Product Manager Crew Served Weapons is responsible for current and future light and heavy machine guns, grenade launchers, related target acquisition/fire control products, and remote weapons systems.



The **M153 Common Remotely Operated Weapon Station (CROWS)** enables Soldiers to acquire and engage targets while protected inside an armored vehicle.



The **M240L 7.62mm Medium Machine Gun** reduces Soldier combat load by decreasing the weight of the M240B without compromising performance.

M153/A1/A2 Common Remotely Operated Weapon Station (CROWS)



MISSION

Enables Soldiers to acquire and engage targets while protected inside an armored vehicle.



CONTRACTORS

Prime:
Kongsberg Defense & Aerospace
(Johnstown, PA)

Top Suppliers:

Vingtech (Biddeford, ME)
BAE Systems (Austin, TX)
Kitron (Johnstown, PA)

M153/A1/A2 Common Remotely Operated Weapon Station (CROWS)

The **M153 Common Remotely Operated Weapon Station (CROWS)** is a stabilized mount that contains a sensor suite and fire control software. It allows on-the-move target acquisition and first-burst target engagement. Capable of target engagement under day and night conditions, the CROWS sensor suite includes a daytime video camera, thermal camera and laser rangefinder. CROWS supports the MK19 Grenade Machine Gun, M2 .50 Caliber Machine Gun, M240B Medium Machine Gun and M249 Squad Automatic Weapon (SAW). The system has been integrated onto more than 20 platforms, from the High Mobility Multipurpose Wheeled Vehicle (HMMWV) to the M1A2 Abrams tank.

The M153 CROWS also features programmable target reference points for multiple locations, programmable sector surveillance scanning, automatic target ballistic lead, automatic target tracking and programmable no-fire zones.

Among newer CROWS applications are fixed-site installations that allow Soldiers to better monitor areas and target threats remotely from inside a protected structure. Fielding teams have installed systems to strengthen force protection at various combat outposts and forward operating bases throughout Afghanistan.

In 2013, the Rapid Equipping Force (REF) responded to an urgent requirement for a CROWS Containerized Weapon System (CWS) that increases options for integrated base defense. When transported by helicopter or trailer, a CWS provides the ability to place a fully functioning CROWS system in difficult-to-reach and remote locations.

Potential enhancements include integration of other weapons, escalation-of-force systems, sniper detection, integrated 360-degree situational awareness, increased weapon elevation, Javelin integration and commander's display.



SPECIFICATIONS

Weapon Suite: M2, MK19, M240 & M249

Color Day Camera: 1° to 45° with continuous Field of View (FOV)

Thermal: 3° & 11.0 ° FOVs

Four-axis targeting system

Three-axis vector stabilization

Laser range-finder

Auto scan/auto focus

Auto lead/auto tracker

PROGRAM STATUS

- ✓ **FY15:** Continue fielding in accordance to Basis of Issue Plan (BOIP)
- ✓ **1QFY15:** Afghanistan – closed CROWS Kandahar Airfield (KAF) facility and centralized all support at Bagram Airfield (BAF)
- ✓ **2QFY15:** Full Materiel Release for CROWS on Special Operations Forces Mine Resistant Ambush Protected (MRAP) All-Terrain Vehicle (M-ATV)
- ✓ **3QFY15:** CWS Phase II (Javelin Integration Kit) Safety Confirmation Approval.

PROJECTED ACTIVITIES

- + **FY16–FY19:** Continue fielding in accordance to BOIP
- + **4QFY16:** Initiate transition to organic depot support



MK19 Grenade Machine Gun



MISSION

Provides offensive and defensive Soldier support via a tripod- or vehicle-mounted grenade machine gun.



CONTRACTORS

General Dynamics Ordnance and Tactical Systems (Saco, ME)
FN Manufacturing LLC (Columbia, SC)

MK19 Grenade Machine Gun

The **MK19 Grenade Machine Gun** supports the Soldier in offensive and defensive roles. It delivers a heavy volume of accurate and continuous firepower against enemy personnel and lightly armored vehicles. The MK19 can mount on a tripod or on multiple vehicle platforms. It is the primary suppressive weapon for combat support and combat service support units. The weapon can protect motor movements, assembly areas and supply trains in bivouac.

The **MK19 Grenade Machine Gun** can defend against hovering rotary-wing aircraft, destroy lightly armored vehicles, fire on suspected enemy positions and provide high-volume fire into an engagement area and indirect fires from hidden positions. The system increases the capability of U.S. forces to defeat opposing armored, mechanized and infantry forces with high-explosive, dual-purpose ammunition.

SPECIFICATIONS

Caliber: 40mm

Weight: 77.6 pounds without mount or tripod

Length: 43.1 inches

Range: Point target 1,500 meters; area target 2,212 meters



PROGRAM STATUS

- ✓ Program is in sustainment
- ✓ Awarded competitive Indefinite Delivery Indefinite Quantity (IDIQ) contract in Aug 2012 for Foreign Military Sales (FMS)/other service requirements to FN Manufacturing

PROJECTED ACTIVITIES

- + Continue sustainment activities
- + Close out GD-OTS contract

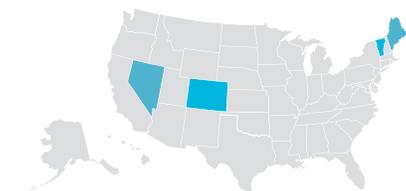


M2/M2A1 .50 Caliber Machine Gun



MISSION

Improves Soldier effectiveness and lethality with a versatile, automatic weapon for offensive and defensive operations, in both ground- and vehicle-mounted roles.



CONTRACTORS

General Dynamics Ordnance and Tactical Systems
(Contracting Facility: Williston, VT / Manufacturing Plant: Saco ME) (M2A1 Kits, M2A1 Gages/Special tools)

Capco, Inc (Grand Junction, CO) (M2A1 Gages/Special Tools)

M2/M2A1 .50 Caliber Machine Gun

The **M2 .50 Caliber Machine Gun** is belt-fed, recoil-operated, and air-cooled. The M2 provides weapon suppressive fire for offensive and defensive purposes. It is capable of single-shot and automatic fire. The battle-proven system can be ground or vehicle mounted and serves as an anti-personnel and anti-aircraft weapon. It is highly effective against light-armored vehicles, low- and slow-flying aircraft, and small boats. In post-combat surveys, Soldiers rate the M2 among the most effective weapon systems in their small arms arsenal.

The **M2A1** with quick change barrel and fixed headspace and timing is an enhancement to the M2 .50 Caliber Machine Gun offering Soldiers increased performance and design improvements that make it easier and safer to use. The M2A1 speeds target engagement and improves survivability and safety by reducing the time required to change the barrel and eliminating the need to manually adjust headspace and timing. The M2A1 also provides a flash hider that reduces muzzle flash by 95 percent, making the weapon less detectable in darkness. The Army began fielding the M2A1 in 2011 and plans to upgrade its entire fleet of 45,000 M2s to the M2A1 standard.

SPECIFICATIONS

Caliber: .50 caliber (12.7mm)

Weight: M2 receiver and barrel 84 pounds; M2A1 receiver and barrel with flash hider and carrying handle 86 pounds

Length: M2 65.13 inches; M2A1 67.75 inches with flash hider

Range: 1,830 meters
Rate of Fire: 450-600 rpm



M2 PROGRAM STATUS

- ✓ **1QFY14:** Ongoing fielding
- ✓ **1QFY14:** Ongoing sustainment

M2 PROJECTED ACTIVITIES

- + **1QFY14:** Continue fielding in support of current operations

M2A1 PROGRAM STATUS

- ✓ **3QFY13:** GD-OTS and Capco, Inc awarded contracts for M2A1 gages/tools
- ✓ **4QFY13:** GD-OTS awarded competitive contract for M2A1 kits

M2A1 PROJECTED ACTIVITIES

- + Continue M2A1 fielding
- + **1QFY15-1QFY19:** GD-OTS delivering M2A1 conversion kits
- + **1QFY15:** GD-OTS and Capco, Inc delivering M2A1 gages/special tools to Anniston Army Depot, AL
- + **1QFY15-2QFY19:** Anniston Army Depot, AL, is converting M2s into M2A1s using M2A1 kits



M240B/L/H 7.62mm Medium Machine Gun



MISSION

Provides significant, reliable and lethal medium support fire for aviation and ground units such as Infantry, Armor, Field Artillery and Combat Engineers.



CONTRACTORS

FN Manufacturing LLC (Columbia, SC)
Colt Defense (West Hartford, CT)

M240B/L/H 7.62mm Medium Machine Gun

The **M240B Medium Machine Gun** is a variant of the M240 mounted on Bradley Fighting Vehicles and Abrams tanks. It has been reconfigured for ground applications with buttstock, bipod, iron sights and forward rail assemblies. The system has a maximum effective range of 1,800 meters.

The M240L incorporates a titanium receiver and alternative materials for fabricating major M240B components. These improvements reduce the Soldier's combat load while allowing easier handling and movement of the weapon. Configured with a short barrel and telescoping buttstock, the M240L weighs 21.8 pounds, 5.8 pounds lighter than the M240B. The M240L meets all of the reliability and operational characteristics of the M240B.

The M240H (Aviation Version) is a self-defensive armament subsystem for the UH-60 and CH-47 helicopters. A key attribute of the system is the ability to employ it as a ground-mounted weapon in the case of an emergency. The system delivers two minutes of continuous suppressive fire and demonstrates reliability equal to the M240B.

SPECIFICATIONS

Caliber: 7.62mm

Weight: M240B 27.6 pounds; M240H 26.3 pounds;
M240L 21.8 pounds with short barrel and collapsible buttstock

Length: M240B 48.5 inches; M240H 41.2 inches;
M240L 44.5 inches with short barrel

Maximum effective range: 1,800 meters (area target)



PROGRAM STATUS

M240B

- ✓ Continue production and fielding

M240L

- ✓ Continue production and fielding

M240H

- ✓ Fielding complete
- ✓ Sustainment
- ✓ Awarded task order contract for improved M24 helicopter mounts
- ✓ **4QFY14:** Begin fielding 400-round ammo can

PROJECTED ACTIVITIES

M240B

- + Continue fielding in support of current operations

M240L

- + Continue production
- + Continue fielding in support of current operations

M240H

- + FY15-16: Continue fielding 400-round ammo can



M240B/L Accessories



MISSION

Enhances the capabilities of the M240B/L Medium Machine Gun by improving mobility, reliability and survivability.



CONTRACTORS

Collapsible Buttstock

Design West Aratech (Tustin, CA)
Joint Manufacturing and Technology Center
(Rock Island, IL)
Kaeper Machine, Inc. (Mentor, OH)

Combat Ammo Pack

Savit Corp. (Rockaway, NJ)

Adjustable Bipod

Design West Aratech (Tustin, CA)

M240L Short Barrel

FN Manufacturing LLC (Columbia, SC)

The **M240L Short Barrel** reduces the length of the standard barrel by four inches and the weight by .5 pounds while maintaining accurate fire at extended ranges. The shorter barrel improves mobility in military operations in urban terrain environments.

The **M240B/L Collapsible Buttstock** improves weapon portability. It meets the same requirements as the standard buttstock while offering the ability to collapse to various positions without degrading weapon function.

The **M240B Combat Ammo Pack** provides a lightweight ammunition magazine/container for attachment to the M240B/L Medium Machine Gun. The ammo pack holds 50 rounds of linked 7.62mm ammunition and protects the ammunition belt from dirt and debris. The ammo pack also allows better movement of the M240B/L during initial insertions and engagements.

The **M240B Adjustable Bipod** provides improved stability on uneven terrain and improved accuracy on hard surfaces by allowing the Soldier to adjust the legs independently.

PROGRAM STATUS

Collapsible Buttstock

- ✓ **1QFY14:** Kaeper Machine completed production deliveries

Ammo Pack

- ✓ Fielding complete

PROJECTED ACTIVITIES

M240L Short Barrel

- + Continue **M240L** Modification Work Order (MWO)

Collapsible Buttstock

- + Continue **M240B/M240L** MWO

Adjustable Bipod

- + Continue **M240B** MWO



M240L SHORT BARREL



M240B COLLAPSIBLE BUTTSTOCK



M240B COMBAT AMMO PACK



M240B ADJUSTABLE BIPOD



M249 5.56mm Squad Automatic Weapon (SAW)



MISSION

Fills the automatic rifle role in infantry squads and provides light machine gun capabilities in combat service and combat service support units.



CONTRACTORS

FM Manufacturing LLC (Columbia, SC)



The **M249 Squad Automatic Weapon (SAW)** provides squad-level fire support. It lays down a base of sustained fire and is used routinely in both mounted and dismounted configurations. The M249 delivers greater range and rates of fire than the M16 or M4.

A collapsible buttstock allows shoulder firing in the extended and collapsed positions. It improves weapons control when fired in confined spaces. The **M249 Short Barrel** allows for improved egress and maneuver in close quarter combat. An improved bipod provides Soldiers with increased reliability and weapon accuracy, including on uneven terrain.

The M249 features a hammer-forged steel barrel for enhanced accuracy and long life as well as a hard chrome-plated bore and chamber for greater corrosion resistance.

SPECIFICATIONS

Standard M249

Caliber: 5.56mm

Weight: 18 pounds

Length: 40.74 inches

Range: point target 600 meters; area target 800 meters
Provides suppressive fire to 1,000 meters

M249 with Light-Weight Collapsible Buttstock and Short Barrel

Caliber: 5.56mm

Weight: 17.95 pounds

Length: 30.75 - 36.25 inches

Range: point target 600 meters; area target 800 meters

PROGRAM STATUS

- ✓ **4QFY12:** Army production ended
- ✓ Production deliveries ongoing for Foreign Military Sales (FMS) and other services
- ✓ Continue support of current operations

PROJECTED ACTIVITIES

Continue support of current operations



M249 Squad Automatic Weapon (SAW) Accessories



MISSION

Provides the Soldier using the M249 Squad Automatic Weapon with accessories for enhanced performance.

CONTRACTORS

M249 SAW Collapsible Buttstock

Design West Technologies (Tustin, CA)
Manufacturing Support Industries (Hebron, MD)

M249 SAW Improved Bipod

Tri-Technologies Inc. (Mount Vernon, NY)

M249 SAW 200-Round Soft Pack

Polymer Technologies Inc. (Clifton, NJ)
Design West Technologies (Tustin, CA)

M249 SAW Short Barrel

Colt Defense LLC (West Hartford, CT)



The **M249 Squad Automatic Weapon (SAW) Collapsible Buttstock** allows shoulder firing in the extended and collapsed positions. It maintains a vertical buttstock position for full interface with the operator's shoulder at all times. It provides intermediate, locking firing positions. This improves weapon control when Soldiers fire in confined spaces, such as Military Operations in Urban Terrain (MOUT). The buttstock allows ease of vehicle ingress/egress and reduces storage space requirements.

The **M249 SAW Improved Bipod** enhances the design of the existing bipod to improve the performance of the weapon. This provides the Soldier with increased reliability and weapon accuracy. Soldiers can adjust the bipod legs to different heights for improved stability on uneven terrain. New production and rebuilt M249s are being delivered with the improved bipod.

The **M249 SAW 200-Round Soft Pack** program is a follow-on effort to the original 100-Round Soft Pack. It helps improve ammo container retention to the weapon and reduces the noise signature associated with the standard plastic container.

The **M249 SAW Short Barrel** provides the M249 SAW operator in the automatic rifle role a shorter, lighter weapon for improved mobility in confined spaces with little reduction in accuracy at normal combat ranges. Operational use and training is the same as the standard barrel length M249 SAW. The short barrel improves MOUT, airborne/air assault maneuverability and jump operations. The short barrel is 4.25 inches shorter than the standard barrel and shortens the weapon by more than 10 inches when combined with the collapsible buttstock. The short barrel is currently under production and supporting current operations.



PROGRAM STATUS

M249 SAW Collapsible Buttstock

- ✓ Continue production and fielding
- ✓ Initiated an Modification Work Order (MWO) to standardize the collapsible buttstock across the M249 fleet

M249 Improved Bipod

- ✓ Production M249s are being delivered with the improved bipod

M249 200-Round Soft Pack

- ✓ Continue production and fielding

M249 Short Barrel:

- ✓ Continue production and fielding
- ✓ Defense Logistics Agency (DLA) managed

PROJECTED ACTIVITIES

SAW Lightweight Collapsible Buttstock

- + Continue production and fielding
- + Continue the MWO standardizing the collapsible buttstock across the M249 fleet

SAW Improved Bipod

- + Continue fielding

200-Round Soft Pack

- + Continue production and fielding

SAW Short Barrel

- + Continue fielding



M249 SAW IMPROVED BIPOD



M249 SAW 200-ROUND SOFT PACK



M249 SAW SHORT BARREL



M249 SAW COLLAPSIBLE BUTTSTOCK



M145 Machine Gun Optic (MGO)



MISSION

Provides a telescopic sight for the M240B/L Medium Machine Gun enabling better target detection, identification and hit probability.



CONTRACTORS

ELCAN Optical Technologies (Ontario, Canada)

M145 Machine Gun Optic (MGO)

The **M145 Machine Gun Optic (MGO)** provides machine gunners with the capability to detect, identify and engage targets at extended ranges. The 3.4x power magnification and wide field-of-view make this product configurable to mission profiles, operational modes and environmental conditions. It fits on the M240B/L for Infantry, Armored Cavalry, Special Forces and Combat Engineer units.

Additional optics information is available online for individuals with Army Knowledge Online access. PM Soldier Weapons has a website that features operating instructions, training information, repair procedures, contact information and more. Visit: <http://optics.army.mil>.



SPECIFICATIONS

Magnification: 3.4x

Weight: 24 ounces

Length: 7 inches

PROGRAM STATUS

- ✓ Production complete
- ✓ In sustainment

PROJECTED ACTIVITIES

- + Fielding and sustainment

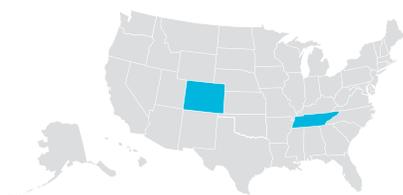


Improved Machine Gun Tripod Systems



MISSION

Provide lightweight tripods that enable quicker and more accurate target engagements for dismounted machine guns.



CONTRACTORS

M192

Capco Inc. (Grand Junction, CO) {COMPLETE}
Universal Technologies Inc. (Estill Springs, TN)
Keystone Automation (Duryea, PA) {Engineering Study}

M205

Capco Inc. (Grand Junction, CO)

Improved Machine Gun Tripod Systems

The **M192 Lightweight Ground Mount for Machine Guns** is an improved-capability ground mount that replaces the M122A1 and M122 Tripods. The M192 is a compact and collapsible ground mount that reduces the Soldier's combat load and improves mobility. At 11.5 pounds, the M192 features a lower profile and weighs approximately six pounds less than the M122A1 Tripod it replaced. The mount provides an integral Traversing and Elevation (T&E) mechanism that allows for quicker, more accurate target engagement and allows for one-handed operation. This T&E mechanism accommodates the M24B, M240L and M249 Machine Guns and eliminates the user's need for adaptors to mount these machine guns.

Other features include a traverse limit stop, a built-in spent case deflector and the ability to fold up and store in the spare barrel bag. The mount includes corrosion-resistant protective finishes.

The **M205 Lightweight Tripod for Heavy Machine Guns** provides a stable firing platform for the M2/M2A1 and MK19, replacing the currently used M3 tripod. With the 34-pound M205, the Soldier will experience 32 percent less weight than with the standard 50-pound M3 Tripod with T&E and pintle. Soldiers will also be able to take advantage of the enhanced tripod's integrated T&E mechanism.

The M205 collapses to less than 50 percent of deployed height and width and will not require adapters. The tripod takes advantage of the full range and versatility of the M2/M2A1 and MK19 and allows for consistent elevation and depression throughout the full range of motion. The mount provides an integral T&E mechanism that allows for quicker, more accurate target engagement and allows for one-handed operation.

SPECIFICATIONS

M192

Weight: 11.5 pounds

Length: Stowed 24 inches; deployed 31.75 inches

Width: Stowed 11.0 inches; deployed 34.0 inches

Height: Stowed 6.5 inches; deployed 10.75 inches

M205

Weight: 34 pounds

Length: Stowed 46 inches; deployed 75 inches

Width: Stowed 12 inches; deployed 69 inches

Height: Stowed 8 inches; deployed 25 inches



PROGRAM STATUS

M192

- ✓ Production and fielding
- ✓ **1QFY14:** UTI completed Army production deliveries
- ✓ **1QFY14:** Initiated Engineering Study contract with Keystone Automation
- ✓ **3QFY14:** Keystone will develop concepts to correct identified Soldier Issues
- ✓ **3QFY14:** UTI will complete final production delivery for FMS
- ✓ **3QFY14:** M192 production complete
- ✓ **4QFY14:** Complete concept evaluation for design Improvements

M205

- ✓ Production and fielding

PROJECTED ACTIVITIES

M192

- + **1QFY15:** Prototype designs delivered for improved designs
- + **2QFY15:** Validate improved design
- + **3QFY15:** Tech/User Testing
- + **1QFY16:** Approve design improvements
- + **1QFY17:** Mod kits delivered for field application
- + **3QFY17:** First Unit Equipped with M192 modification kits

M205

- + Production and fielding continue
- + **3QFY14:** Competitive contract(s) awarded



M205



M192



Family of Binoculars



MISSION

Provides Soldiers with the ability to conduct enhanced surveillance and battle damage assessment without risk of optical hazard from battlefield lasers.



CONTRACTORS

Clear Align LLC, Norristown PA (M22)
Centron Industries, Carson, CA (M24)
Fraser-Volpe Corp, Warminster, PA. (M25)

M22 Binoculars are a ruggedized 7x optics with a 7.5-degree Field of View (FOV). The M22 delivers brilliantly focused imagery, which enables target detection up to 2,000 meters. The M22 provides high-quality resolution and magnification and is the Army's standard binocular. At 7.40 inches long, 8.20 inches wide, 7.19 inches tall and weighing 2.7 pounds, the M22 Binoculars are known as the Army's "Field Binocular."

M24 Miniature Binoculars are ruggedized 7x optics with a 7-degree FOV. The M24 delivers brilliantly focused imagery, which enables target detection up to 1,800 meters. The M24 offers the same high-quality resolution and magnification as the Army's standard M22 Binoculars. However, the M24 Miniature Binoculars are 80 percent smaller in volume and 50 percent lighter than the M22 Binoculars.

M25 Stabilized Binoculars have 14x optics with a 4.3-degree FOV that deliver brilliantly focused and steady imagery regardless of movement. Its maximum effective range is 4,000 meters. In the day mode, the binoculars are direct-view optical devices. For night missions, the binoculars offer interchangeable Image Intensifier GEN III eyepieces. Soldiers can tripod mount or hand hold the binoculars. Power comes from two AA batteries or vehicle power units via an adapter cable. Broadband multilayer coating on the optics enables greater than 90 percent transmission of light.

M25E1 Stabilized Binoculars are a lighter weight version of the M25 that have 14x optics with a 4.3-degree FOV that deliver brilliantly focused and steady imagery regardless of movement. Its maximum effective range is 4,000 meters. The binoculars are direct-view optical devices for day use only. Soldiers can hand hold the equipment or tripod mount. Power comes from one CR123 battery or vehicle power units via adapter cables. Broadband multilayer coating on the optics enables greater than 90 percent transmission of light.

SPECIFICATIONS

M22

Magnification: 7x
Field of View: 7.5 degrees
Weight: 2.7 pounds
Height: 7.1 inches
Width: 8.2 inches
Length: 7.4 inches

M24

Magnification: 7x
Field of View: 7 degrees
Weight: 1.26 pounds
Height: 5.31 inches
Width: 4.92 inches
Length: 2.68 inches

M25

Magnification: 14X
Field of View: 4.3 degrees
Weight: 4.5 pounds
Height: 3.5 inches
Width: 7.5 inches
Length: 8.25 inches

M25E1

Magnification: 14X
Field of View: 4.3 degrees
Weight: 3.2 pounds
Height: 3.3 inches
Width: 7.6 inches
Length: 8.6 inches

PROGRAM STATUS

M22

- ✓ In sustainment
- ✓ **1QFY14:** Three-year Indefinite Delivery/Indefinite Quantity (IDIQ) contract awarded
- ✓ **4QFY14:** Initial delivery from Clear Align LLC

M24

- ✓ In production

M25

- ✓ In production
- ✓ **QFY14:** Fraser Volpe IDIQ delivery order completed.

M25E1

- ✓ **3QFY14:** Seeking type classification

PROJECTED ACTIVITIES

M22

- + Continue sustainment

M24

- + Continue production and fielding

M25

- + Continue production and fielding

M25E1

- + Materiel release and production



M25 STABILIZED BINOCULARS

M24 MINIATURE BINOCULARS



M22 BINOCULARS



M25E1 BINOCULARS



Close Combat Mission Capability Kit (CCMCK) System



M249 SQUAD AUTOMATIC WEAPON (SAW) CONVERSION ADAPTER KIT



M9 AND M11 PISTOL BARREL ADAPTERS



M4 CARBINE/M16 RIFLE CONVERSION ADAPTER KIT



PROTECTIVE MASK

MISSION

Permits Soldiers to fire 5.56mm (linked/unlinked) man-marking ammunition and 9mm man-marking ammunition in assigned weapons during force-on-force training.



CONTRACTORS

M4 Carbine/M16 Rifle/M249 SAW Conversion Adapter Kit

Ultimate Training Munitions (Suffolk, UK)

M9 and M11 Pistol Barrel Adapter Kit

General Dynamics Ordnance and Tactical Systems

(Le Gardeur, Quebec, Canada)

Close Combat Mission Capability Kit (CCMCK) System

The **M4 Carbine/M16 Rifle Conversion Adapter Kit** provides utmost safety, in-service reliability and maintainability. The kit is easy to install with a simple exchange of the bolt. It adapts the host weapon to fire unlinked 5.56mm M1042 man-marking ammunition with the feel and function of live ammunition. The kit includes fail-safe measures to prevent the discharge of a standard "live" round.

The **M249 Squad Automatic Weapon (SAW) Conversion Adapter Kit** adapts the host weapon to fire 5.56mm M1071 linked man-marking rounds. The kit provides utmost safety, in-service reliability and maintainability. The kit is easy to install with the exchange of the bolt and slide assembly. It includes fail-safe measures to prevent the discharge of a standard "live" round.

The **M9 and M11 Pistol Barrel Adapters** are designed for firing 9mm M1041 man-marking cartridges. The barrel bore is off center at the muzzle. Both the barrel and slide are unlocked to ensure reliable functioning of the weapon. To compensate for this, in combination with the low muzzle velocity of the projectile, the barrel bore is canted upward from the chamber to the muzzle to maintain aiming accuracy.

PROGRAM STATUS

- ✓ Program in sustainment

PROJECTED ACTIVITIES

- + No activities planned





Rapid Equipping Force (REF)



The U.S. Army Rapid Equipping Force (REF) harnesses current and emerging technologies to provide immediate solutions to the urgent challenges of Soldiers deployed globally. REF equips Soldiers with kit that falls into all seven warfighter function areas:

1. Mission command
2. Movement and maneuver
3. Intelligence
4. Fires
5. Sustainment
6. Maneuver support and protection
7. Engagement



Units experiencing urgent tactical challenges should contact the REF Operations Center by calling 703-704-0937 or emailing usarmy.belvoir.hqda.mbx.ref-ops-center@mail.mil or usarmy.belvoir.hqda.mbx.ref-ops-center@mail.smil.mil (SIPR). For more information, visit www.ref.army.mil.

Although REF is operationally aligned under U.S. Army Training and Doctrine Command (TRADOC), PEO Soldier serves as its Milestone Decision Authority. A dedicated PEO Soldier Project Manager works onsite to facilitate REF's mission.

MOST REF SOLUTIONS ARE EQUIPPED IN 180 DAYS OR LESS.